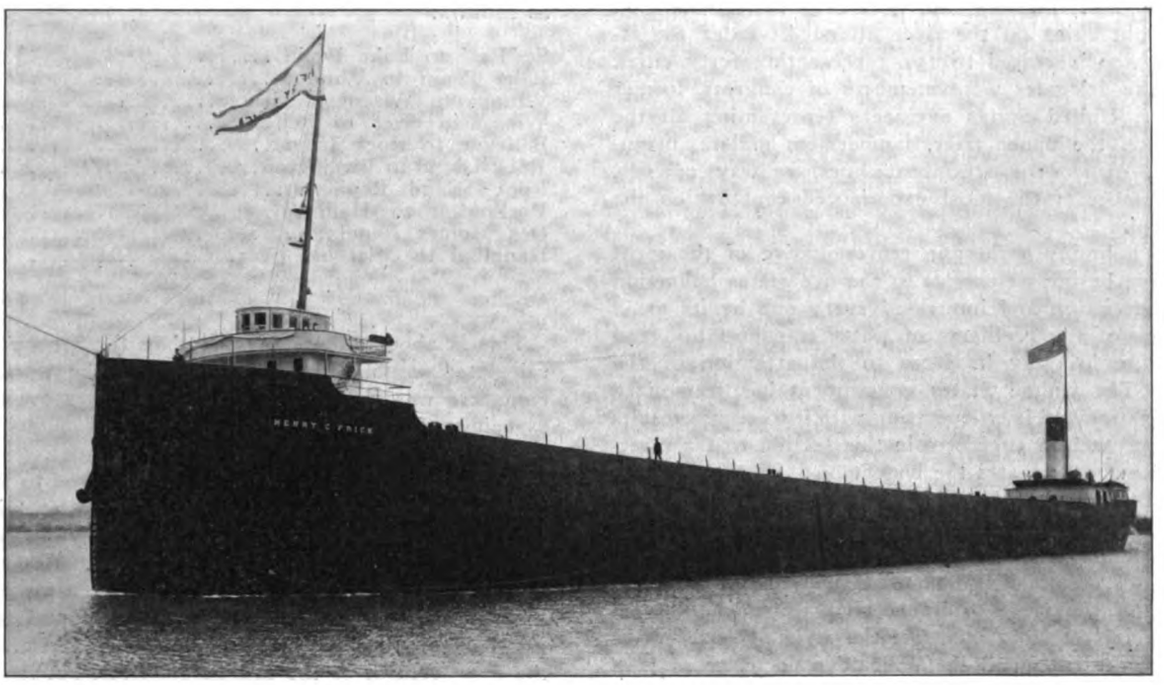
MARINE REVIEW

VOL. XXXII. CLEVELAND, OCTOBER 19, 1905. No. 16.

IMPROVEMENT OF WATERWAYS

Mr. Robert Ramsay, of Baltimore, Md., chairman of the executive committee of the National River and Harbors Congress, for the purpose of arousing general interest in the improvement of American waterways, has sent the following article to every commercial institute in the United States:

"In view of the necessity of arousing general interest in the improvement of our rivers, harbors and waterways, it has been decided to reconvene the National Rivers and Harbors Congress which was founded in Baltimore, Md., in October, 1901. The present intention is to hold this convention in the city of Washington in the month of January, 1906, the exact date to be arranged later. It is absolutely essential to the development of the commerce of our country that the attention of our national government should be again called to the pressing necessity of providing the ways and means for the carrying on of this most important work. The demands made hitherto in connection with this work have been moderate when considered in connection with the scope and necessity of the work. We cannot do better, while on this point, than to quote from Judge Burton's address before the National River and Harbor Congress, in 1901.



THE NEW STEAMER HENRY C. FRICK OF THE PITTSBURG STEAMSHIP CO.'S FLEET.

[Built at the West Bay City yard of the American Ship Building Co.

> The great advance in our trade, and especially in our exports, during the last few years has been the marvel of the commercial world. For the maintaining of this increase it is necessary to provide adequate means to carry the products of the farm, the forest, the mine and the factory, and to provide deep and convenient harbors in which these products may be loaded for shipment to all parts of the world. Not to go forward is to go backward. In this era of expanding commerce, when we hope for peace everywhere, the conquerors of the earth are not those who wield the royal sceptre, but the merchants, the manufacturers and the shippers, who control the great movements of commerce.

"The policy of congress in this matter has not been liberal in the past, and it is therefore the duty of the commercial interests of this country to take the opportunity presented by this convention to demand that more liberal

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appropriations for the improvement of navigation be at once accorded to us. These appropriations are as equitable as any public expenditure, and are of paramount importance in protecting and promoting commerce. The money expended by the government in the improvement of rivers and harbors is really an investment in transportation facilities, the returns from same being practically shared in by the whole people.

"This call is issued to every commercial institution in this country. We know no section, no special interest, nothing but a determination to have our legitimate demands listened to by congress, in order that the commerce of our whole country may be benefited by the result. It is earnestly hoped that we shall receive a hearty response from every commercial body to whom this call is sent."

IMPROVEMENT OF THE UPPER MISSISSIPPI RIVER

Representatives of the commercial interests of the five upper Mississippi river states organized as the Upper Mississippi River Improvement Association, assembled in La Crosse last week in annual convention to continue work for action by the government to develop the transportation facilities of the river to their full possibilities. This is the biggest and best convention yet held by the association and there is a feeling of confidence that the organization is destined to early success.

At the first meeting ninety delegates representing twenty-eight cities on the river attended. Later the attendance was increased to 150, representing forty cities. Among the delegates were members of congress, former governors, United States engineers representing all the districts on the upper river, lumbermen, millers, manufacturers, owners of steamboat lines, railway officials, and a number of the most experienced captains on the Mississippi.

It was a brainy gathering, representative of the most progressive business elements in the five states belonging to the association and impressed every one by its exact knowledge of the problems of water transportation and its force in bringing its ideas to the attention of the country. The United States government has recognized the association and is co-operating with it to secure results by sending its best engineers in this section to the meeting to give the delegates the benefit of a scientific knowledge of the points in discussion.

As a further indication of the government's interest the United States steamer Mackenzie was placed at the convention's service and was utilized in taking the delegates about the river to learn what work was needed in this vicinity and to illustrate the style of government improvements used and the difficulties encountered in a low channel.

The important matters of the first day of the convention were the annual report of President Thomas Wilkinson, of Burlington, showing the progress made in the last year, the inspection of the river on the steamer Mackenzie and the message of encouragement delivered by Col. John L. Vance, of Ohio, president of the Ohio Valley Improvement Association.

Col. Vance described what had been accomplished on the Ohio river by the organization of business interests and urged a united effort between his association and that of the Mississippi river to secure the best results. He declared it his firm conviction that the success of the Isthmian canal depended upon the ultimate improvement of the Ohio and Mississippi rivers. He further showed that the river improvement movement had in it nothing of hostility to the railroads but that the improvement of rivers and harbors and the development of the railway business went hand in hand.

The suggestion of President Vance met enthusiastic approval and expressions from the delegates favored a national organization for the purpose of securing more systematic and thorough improvement of rivers and of harbors on the great lakes.

Congressman J. H. Davidson, of Oshkosh, addressed the afternoon session of the convention in behalf of the committee on rivers and harbors of the house of representatives. Mr. Davidson declared that the rivers and harbors committee was as determined to develop the Mississippi traffic as were the members of the association and he suggested that an effort should be made to secure a larger allowance for the purposes of the committee. This was in line with the recommendation of President Wilkinson in his annual address.

The most important accomplishment of the year, President Wilkinson said, was the securing from congress of a survey of the Mississippi river and an estimate of the cost of the improvement demanded. The secretary of the association, L. B. Boswell, had had conferences with Chairman Burton and members of the house committee on rivers and harbors with the result that an appropriation for the survey was made by the last congress. The government engineers now estimate that the necessary work on the upper river to give it a channel of not less than six feet at the lowest stages of the water will cost as follows:

St. Paul to Lake Pepin	$ 763,950
Lake Pepin to Winona	1,287,500
Winona to Wisconsin river	2,453,033
Wisconsin river to Bellevue	2,065,350
Bellevue to Rock Island	2,516,585
Rock Island to Burlington	2,389,854
Rock Island Rapids	3,700,000
Burlington to Hannibal	2,283,996
Des Moines Rapids	500,000
Hannibal to Missouri river	1,900,000
	$19,860,348

This is about $5,000,000 more than the association had calculated would be necessary, but as the work of the engineers was thorough the revised figures are accepted as being approximately correct.

President Wilkinson urged the association to indorse forest reserves and drainage as being kindred to the work of improving the river, and stated that the question of a forest reserve in northern Minnesota may have an important effect on the future of the river. Reservoirs at the headwaters of the Mississippi also were favored.

The association, the president said, has found the rivers and harbors committee disposed to do all that it can for the improvement of the Mississippi river, but it is handicapped by lack of funds. It should have a larger allowance.

Resolutions renewing the request for an appropriation for a 6 ft. channel in the Mississippi from St. Louis to Minneapolis were drafted by the committee on resolutions to-night and will be adopted to-morrow morning. The new memorial to congress will ask for the completion of the channel by the time the Panama canal is completed.

The Fulton Iron Works, San Francisco, is building machinery for four new steam schooners which are under construction at various Pacific ship yards. Two of these vessels are bulding at Bendixson's yard, Eureka, Cal., for the Hammond Lumber Co., and one for McCormick & Co. Another is being built for Beadle Bros. at John Lindstrum's yard, Aberdeen, Wash.

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TURBINIA-PRIMROSE COLLISION

Concerning the collision between the turbine driven steamer Turbinia, owned by the Turbine Steamship Co., Hamilton, Ont., and the steamer Primrose, owned by the Toronto Ferry Co., which occurred at Toronto on Aug. 12, Com'dr O. G. V. Spain, Dominion lake commissioner, has rendered judgment as follows:

"The Turbinia and the Primrose were lying at their respective wharves in Toronto; the Turbinia stern out and the Primrose bow out. In accordance with her usual custom, the Turbinia backed well out into the bay, somewhere in the vicinity of 1,000 yards, far enough as the captain considered to make his turn and proceed through the western channel. The Primrose left her wharf and ported her helm when she was clear, and proceeded on her course to her destination at the Island. After getting out far enough and just as she started ahead, the Turbinia signaled a steamer, presumably the Kathleen, which vessel got out of her way. The helm of the Turbinia was then put hard a-starboard, and at this time there were some 1,500 yards between the Primrose and the Turbinia. At this point there is very conflicting evidence in regard to some small boats in the vicinity of the Turbinia; however, there is no doubt that it did not require much maneuvering on the part of the Turbinia to clear these boats as her helm was kept hard a-starboard the whole time. When within 500 or 600 yards of the Primrose it apparently occurred to Capt. Bongard of the Turbinia that the Primrose might possibly be in his way, and at this distance he signaled with two blasts of his whistle; this signal was taken no notice of by the master of the Primrose, and from the many witnesses examined there appears every reason to believe that the signal was not heard on board the latter ship, more especially when it is taken into consideration that the master of the Primrose was in full view of the master of the Turbinia, and no action was observed on the part of the Primrose after the two blasts were given, and this fact should have been evident to the master of the Turbinia. The master of the Turbinia did not repeat the signal and still held to his course, giving the danger signal when within about 300 yards of the Primrose and reversing his engines. Capt. Murphy, of the Luella, stated that he was about 200 yards to the southward and westward of the two vessels at the time of the collision, and previous to it he thought the Turbinia was going under the stern of the Primrose, and he could not understand when he heard the two whistles why the Turbinia apparently intended to cross the bows of the Primrose, as there was ample room between the Primrose and the shore (with no obstacle in the way) for the Turbinia to pass.

"The court is of opinion that the engines of the Turbinia should have been stopped when the two blasts were given and no notice taken of this signal by the Primrose, which vessel, as already stated, at that time was some 500 to 600 yards distant. The master of the Turbinia seems to have been aware from the time he started to make his turn, after backing out from the dock, of the position of the Primrose, that is to say when she was some 1,500 yards away, and secondly, when she was 500 or 600 yards distant from him. There is no doubt that both vessels were in fault in regard to speed, as laid down by the regulations of the Toronto harbor board—the Primrose slightly in fault, and the Turbinia considerably so.

"Taking all the facts into consideration, the court considers that it ought to have been brought to the mind of the master of the Turbinia that the courses upon which the vessels were approaching, and attending circumstances, involved risk of collision, and as the Turbinia was the overtaking vessel, with the Primrose on her starboard side, the onus is thrown on the master of the Turbinia in not doing that which the rule prescribes, that is, to keep clear of the overtaken vessel.

"It seems to the court that it showed lack of judgment on the part of the master of the Turbinia, that, having a vessel fitted with every modern appliance under his command, with an experienced wheelsman at the helm, and with steam steering gear, with which, as the nautical expert retained by the Turbine Steamship Co. so aptly puts it, she can be steered accurately with one finger, he should have been unable within a distance of 1,500 yards to avoid a collision, which he himself apparently considered a possibility. From the evidence adduced there is no doubt that, had it not been for the action of the master of the Primrose in porting his helm when a collision was imminent, the Turbinia would have struck his vessel stem on, as her helm at the moment of striking was still hard a-starboard.

"The court cannot favorably comment on the action of the master of the Turbinia after the collision occurred. From the evidence, it appears that the Turbinia proceeded on her course after the collision, without making any inquiries as to what damage had been done, or whether the Primrose was in need of assistance. The court can well see that possibly it is not so material in this case to ascertain what damage had been done as it would have been had the casualty occurred on the open lake, but considers that the well-known rule of 'standing by' should have been observed in this case, as it is a recognized fact that a ship should obey this rule, even at some risk to herself, and although the other appears to be in no danger.

"Taking all these facts into consideration, the court considers that Capt. Bongard showed a very grave lack of judgment, thus endangering the lives of hundreds of passengers on both vessels, and therefore suspends his certificate for nine months from Aug. 12, the date of the collision.

"The court wishes to bring to the attention of the harbor commissioners of Toronto that the second paragraph of section 8, by-law 11, of the by-laws and regulations of the harbor, seems to be entirely a dead letter, it being proved by all the witnesses at the investigation who were questioned on the subject, that not only is the law in regard to the speed of four miles an hour not carried out, but that it is impossible to carry it out. This being the case, the court would suggest that this by-law be amended to more fully meet the requirements of the increasing trade of the port of Toronto. It is understood that these by-laws came into operation nearly twenty years ago.

"The court also desires to point out to the Toronto Ferry Co. that the system of not having a proper look-out on board the ferry boats, and the captains more or less enclosed in the pilot house, is not a good one, although the court is fully aware that the same practice is followed elsewhere."

After reading the judgment, Com'dr Spain read the following statement: "The master of the Primrose holds a service certificate as master of a passenger steamer in inland waters. The master of the Turbinia holds a certificate of service as master of a fore-and-aft-rigged sailing ship in inland waters, which certificate is endorsed to act as master of steamers also. The certificate of Capt. Bongard did not entitle him to command a passenger steamship, but he is exonerated from any wilful desire to act in a wrong capacity, as he might have misunderstood the limitations of his permit."

Jas. Mann, first officer of the Turbinia, and who was last year mate on the Niagara Navigation Co.'s steamer Chippewa, is now in command of the Turbinia, in consequence of Capt. Bongard's suspension.

The battleship New Jersey now building at the yard of the Fore River Ship Building Co., Quincy, Mass., will be presented with a silver service by the commonwealth of New Jersey. The service has been designed by Tiffany of New York, and is among the richest ever presented to a battleship.

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GRAIN TRADE BLOCKED

Buffalo, Oct. 17.—This port is again in a state of siege on account of the failure of the railroads to furnish cars enough to carry off the grain as fast as it comes in. This state of things is popularly known as an elevator blockade, though it really has nothing to do with the elevators beyond the fact that they are not large enough to hold all the grain that comes in during the fall. Seldom has it happened at any time that more grain has come in than the elevators could handle and at present, with something more than a million bushels a day coming in, the elevators are handling a million and a half a day if there is storage room for it.

It seems too bad for the big steamers to come in and be obliged to lie their great lengths somewhere in the way till there is a chance for them to unload. Of a list of eight arrivals reported one day last week three of them brought over 240,000 bu. of grain apiece, so it will be seen that the ore fleet is not going to stick to ore and allow itself to be driven out of grain by the smaller boats, as has been the case with hard coal for the most part of this season. The largest-sized steamers can load and unload grain about as well as smaller ones.

But when it comes to handling them in such a port as this the harbormaster has a problem before him and he has written to a considerable number of vessel owners, directing them to remain in the outer harbor till they have a place to begin unloading. There are of course several sides to the question, and I hear a grumble from some of the captains already, who are given to holding that they may do as they please, even if it turns out that doing as directed will help them out as well as the port. One of them when verbally notified of the state of things the other day, had his revenge by calling Buffalo "the rottenest port on the lakes," though he may have taken cargoes out of Chicago river in his day—and he somehow didn't go somewhere else this trip.

The harbormaster holds that he has authority to order a vessel outside where it is obstructing the inner harbor, for the harbor extends a mile beyond the breakwater. Still it would seem that no conflict or even difference of opinion ought to exist in the matter. For a 250,000-bushel cargo to come inside with nowhere to unload usually means an extra tug bill when the elevator is obtained and it takes only a few such to hold up the entire harbor. The harbor master states that it is impossible for such to tie up anywhere inside to wait without being in the way of business.

It is reported that the Canadian elevators on Georgian Bay are badly overcrowded and it appears that there is little room to be had except on the St. Lawrence, which has not been such a great success as yet in the line of grain handling by water. Far more diversion from the Buffalo route has been effected by the southern routes, the reason for their activity being chiefly on account of the state of the terminal facilities in New York harbor. The charges of the like against Buffalo harbor have been laid aside for some time, or are heard as a sort of echo of the past. When they are made they merely betray the fact that the accuser is a back number, or thinks his hearers are not posted. The Buffalo elevators are practically controlled by the railroads and the charges are absorbed by them.

The effort to extend the inner harbor eastward goes on with some vigor, but the work is somehow rather slow, as it seems to a spectator. It has always been the dream of the vessel interests to secure a safe channel 20 ft. deep or more to the Union Iron Works. It is now said that this is a certainty this time, a great part of it being already accomplished. The dredgers upset a big stone obstruction at the turnpike bridge the other day and stopped the passage up. This was spoken of as an accident by the harbor master and will be accepted as such if it is not done again. One vesselman who was not inclined to feel very pleasant about it said that as an accident it was the greatest success of the season.

It is so desirable that the marine interests be more generally distributed than they are that the concentration of great wealth in that industry ought to accomplish much in that direction. If the vessel owner was also an owner of dock property here it would be impossible to speak truthfully of the harbor as out of date, for it would have been improved as fast as the vessels have been. The fact is that Buffalo has very little but her natural advantages to show for the lead she has in certain marine matters. It sometimes seems that the city with small advantages, but large possibilities and a will to work for them is best off in the end. Had we put as much expense accordingly on the harbor as Canada has on her worthless sand-pit ports on the shores of Lake Erie the return would have amply repaid the outlay.

Still there is plenty of excuse for failing to keep the pace set by the lake fleet. A late official list of new vessels enrolled in this country contains the names of eighteen, the two for the lakes, the Frank J. Hecker and John Stanton, measuring considerably more than half of the whole.

JOHN CHAMBERLIN.

NO COMBINATION OF CANADIAN VESSELS

In a recent interview in the *Toronto Globe* Mr. A. A. Wright, of Toronto, manager of the steamer Tadousac, denied that any combination existed among vessel owners for the carriage of Canadian grain, in the following language: "I notice a press report from Winnipeg expressing shippers' dissatisfaction over alleged combine of vessel owners. I take exception to the expression, as the term is incorrect. The only agreement is one not to carry below reasonable cost of transportation, considering the season of the year and the delay boats get in loading and unloading. The shippers forced the vesselmen to this to save them from bankruptcy, as in addition to the low rates, shippers insist on vessels loading at as many elevators as a shipper has grain in, regardless of what it costs the vessel. And, as if that was not enough, insist, further, on the captain signing what is known among vesselmen as the cut-throat bill of lading, in which the vessel guarantees to pay for any shortage the unloading elevator may make on cargo, which in several cases lately has come to more than the freight, and in other cases left the steamer $300 or $400 for a trip which may have cost the vessel owner $1,500. Some vessel companies have not paid a cent in dividends for four years, largely owing to the low rates and great delays, and if despatch does not improve shippers will pay very much higher rates this fall than those in question. Some shippers are now offering Canadian vessels from ½ to ¾ cent per bushel less than they are now chartering United States vessels for. It is still taking from 36 to 48 hours to load boats of from 80,000 to 100,000 bushels capacity, though this should be done in six to ten hours, and Canadians have sufficient boats to take care of all the grain the elevators at Fort William and Port Arthur will load this fall if they would give the vessels the despatch they are entitled to at each end of the route."

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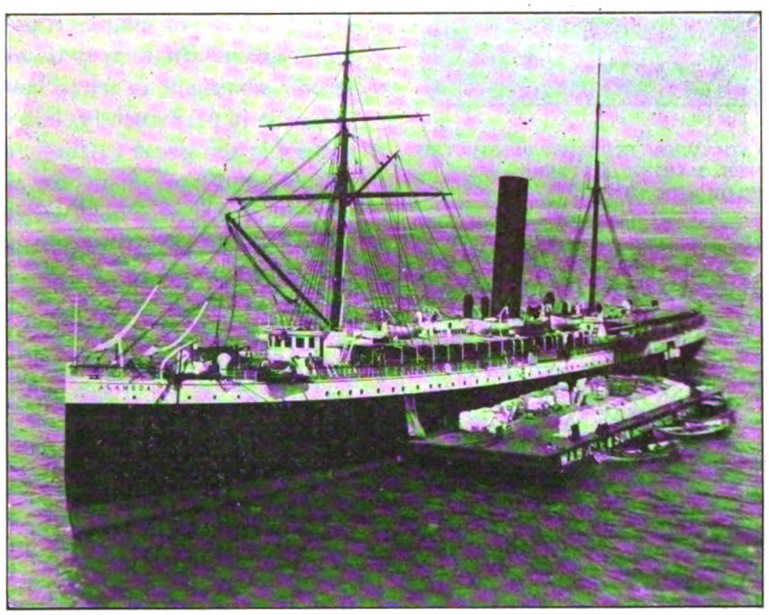
STEAMSHIP ALAMEDA ON A REEF

On Saturday, Sept. 30, the steamship Alameda, owned and operated by the Oceanic Steamship Co., with headquarters in San Francisco, ran on the rocky reef just off Fort Point, at the Golden Gate, and bids fair to prove an almost total wreck. The Alameda a short time before going on the rocks left her dock and steamed away bound for Honolulu. At the time a heavy fog prevailed. The vessel was in charge of Pilot C. B. Johnson, who had run in and out of the bay for many years, and had great experience. Capt. Dowdell was the master of the vessel. So very dense was the fog bank that the pilot lost his reckonings and veered half a mile or more from the channel—going to the southern shore. Within several hundred feet of the main land at Fort Point, the Alameda ran on the treacherous reef and stuck fast. All efforts to pull the vessel off have proved futile.



STEAMER ALAMEDA ON A REEF.

Fortunately, all the passengers—about fifty—were taken off safely. The cargo valued at about $100,000 has been badly damaged—almost a total loss, being of a perishable nature. The vessel's damages thus far to the steamship is estimated at nearly $100,000. Both Pilot Johnson and Capt. Dowdell claimed that the fog whistles at Lime Point and at Fort Point were not blowing at the time the steamer went ashore. However, this is denied by the keepers.

The question of the responsibility of the disaster will be very thoroughly investigated by the pilot commissioners, the marine underwriters, and the officials of the Oceanic Steamship Co. Constant efforts to pull the vessel off the reef are being made, but the final result is very problematical. Submarine divers have been examining the bottom all along the hull of the steamer, yet the full measure of damages has not been determined. The hull is pretty well filled with water—in forward compartment—and the stern has settled deep into the sea. Several holes have been made in the forward part of the hull and the plates are bent in many places. It is claimed that otherwise the steamer has sustained no very serious damages; that the vessel has not been strained, as at the time of the grounding she was moving under a slow bell.

The work of lightering the ruined cargo is progressing slowly, owing to many difficulties. It is hoped that when all the cargo is out, the vessel may be pulled off at very high tide with the aid of lighters. Several powerful pumps have been installed on board, and it is thought that with their aid, the inflow of the waters may be held in check until the craft can be beached and the rents in the hull temporarily closed.

Though 22 years old, the Alameda has been pronounced a strong, staunch and sea-worthy vessel. This is the first accident that has happened during her long and useful career. Near the same point where the stranded vessel now lies helpless, the skeletons of four other steamers strew the bottom of the bay. These are the Rio de Janeiro, lost four years ago with the loss of 127 human lives; the City of New York, lost twelve years ago; the steamship Grenada, lost some eighteen years ago, and the City of Chester, that ran to her doom on the same fatal reef, more than fifteen years ago. All these ill-fated vessels found ocean graves by getting off of their course and running on the reef that extends for more than half a mile out from the point on which the old brick fort stands. A bell buoy marks the point at the northern end of this reef, and the danger is further guarded by the light station at Fort Point, the fog whistle, and a large bell. None of the ill-fated steamers named ever ran on the reef so very close to the shore as the Alameda. Only at the very lowest tides are any points of this reef visible; at mean tide the rocks are all hidden, hence the great peril.

The Alameda was built in 1883, at Cramp & Sons Shipyards, Philadelphia along with her sister ship the Mariposa, by the Oceanic Steamship Co. (each at a cost of $500,000). She was brought around in 1884, and, for many years ran on the San Francisco-Australian route, carrying mails. This vessel made a great record for speed and regularity. After the company had added several more giant liners, the Alameda and Mariposa were placed on the San Francisco-Hawaiian Line.

Several years ago the Alameda was thoroughly overhauled at the Risdon Iron Works, San Francisco. New engines and boilers were added. Recently the Alameda was equipped to burn liquid fuel.

The Hamburg-American liner Amerika, which has just reached this country on her maiden trip, was dry docked at Southampton to be cleaned and painted after leaving the yard of her builders, Harlan & Wolff, Belfast, Ireland. The Woolston Works of Messrs. John I. Thornycroft & Co., Ltd., were asked to undertake the task of completing the job within twenty-four hours. Accordingly as soon as the water had been pumped out of the dry dock an army of men swarmed into the dock. Stagings were erected and in a short time the air was ringing with the harsh scraping of the scrubbers. Subsequently the huge surface of hull below the water line was coated twice over with Holzapfel's anti-fouling composition. The work was completed within the time specified.

While the Cunard liner Campania was en route to New York last week she was boarded by a terrific sea on the port side and as a result twenty-eight steerage passengers were injured, none of them, however, fatally. The accident is one of the most serious that has ever befallen a Cunarder.

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Published every Thursday by

The Penton Publishing Company

CLEVELAND.

CHICAGO: MONADNOCK BUILDING.
PITTSBURG: PARK BUILDING.
NEW YORK: 150 NASSAU STREET.

Correspondence on Marine Engineering, Shipbuilding and Shipping Subjects Solicited.

Subscription, $3.00 per annum. To Foreign Countries, $4.50. Subscribers can have addresses changed at will.

Change of advertisting copy must reach this office on Thursday preceding date of publication.

The Cleveland News Co. will supply the trade with the MARINE REVIEW through the regular channels of the American News Co.

European Agents, The International News Company, Breams Building, Chancery Lane, London, E. C. England.

Entered at the Post Office at Cleveland, Ohio, as Second Class Matter.

OCTOBER 19, 1905.

The statements in the newspapers that the navy department is concerned over the towing of the new floating dry dock recently constructed at Sparrow's Point to the Philippines, are erroneous. The department has no apprehension whatever about the towing of this dock. A sufficient number of floating docks have been towed long distances, so that the general maneuver is entirely safe and only the details need attention. This dock in particular is the most substantial and strongest yet built, and there is no concern whatever about its seaworthiness. In fact, it is estimated that the dock would remain afloat in conditions that might destroy the balance of the tow. There are two seasons of the year when it is desirable to start with this dock, so as to avoid the cyclones of the West Indies and the monsoons of the Indian ocean. It is either desirable to be ahead or behind of both; preferably the latter. If the Cape of Good Hope route is taken, October is the preferable time for starting; if the Suez canal route is taken, the start can be made in December to advantage. The Cape Horn route is not considered desirable. In arranging the details of the trip it is the safety of the towing vessels that have greatest consideration. The department is now planning the details for towing the dock itself. It is considered an important maneuver of modern naval warfare and in this case combines both technical and commercial considerations. In the meantime the dock has been accepted and is favorably located for emergency or regular use as long as it may be retained on the Atlantic coast. In fact, it is understood that there is a strong sentiment in many quarters to retain the dock where it is permanently, but its importance in eastern waters is too great to admit of this. There is a very suitable and convenient site along the Olongapo naval station, and it will be possible to lift ships with it as soon as its moorings can be placed after arrival.

At the annual convention of the American Bankers' Association at Washington last week a most masterful address upon the subject of "Our Commerce" was made by Mr. Harvey D. Goulder, president of the Merchant Marine League of the United States. The full text of this address will be found elsewhere in this issue. It deserves to be preserved for future reference for the invaluable information which it contains and the unanswerable manner in which it advocates the wisdom of governmental support to shipping in the foreign trade.

During the past few months the Merchant Marine League has made a most excellent campaign among merchants, manufacturers and bankers in behalf of American shipping. It is therefore a matter of great encouragement to the League to note that the American Bankers' Association has placed itself on record as favoring governmental support to shipping in the foreign trade. The resolutions adopted by the bankers are direct and are as follows:

"*Resolved* by the American Bankers' Association, assembled:

"First, That the members of this association are deeply interested in any measure which will promote the interest of the whole country commercially and industrially, and especially with reference to our foreign commerce.

"Second, That we favor and most respectfully urge the passage by congress of some measure to foster and encourage the upbuilding of our merchant marine, and give us back the prestige on the high seas which we once enjoyed.

"Third, That we favor the ship subsidy measure which has received consideration by congress, which, we think, would tend to restore our flag on the seas and build up our merchant marine to the extent that the necessities of our trade now and in the future may demand.

"Fourth, That we recommend that our senators and congressmen favor some just and equitable measure that will bring about the results and afford the relief above suggested.

"Fifth, That through our legislative committee we memorialize the senate and the house of representa-

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tives of the United States with a copy of these resolutions."

There is to be noted throughout the entire country an awakening on the subject of foreign shipping. The foreign trade of the United States is growing by leaps and bounds, the proportion of manufactured articles increasing steadily and of raw materials decreasing steadily. The time is fast coming when the United States will have no grain to ship abroad. The nation is growing to be a great workshop, producing all kinds of articles calling for the highest skill. It has a wonderful home market, but if its prosperity is to continue, the surplus product must be sold abroad. There is only one way to assure a continuous sale over sea under all conditions, and that is by the carriage of the products in American ships. There will then be no danger of the withdrawal of tonnage which is now ever present. It is not enough that other nations may carry as cheaply. The integrity of our foreign trade must be maintained against all possible interference through the complications of other nations. There is only one way to do it and that is to own our own ships.

FREIGHT SITUATION

Bad weather at upper lake ports has interfered with the loading of ore and has by no means contributed to improve a situation already bad. It has, however, had the effect of putting the Lake Erie docks in a little better shape, though there is still considerable delay in unloading. The grain rate is steadily advancing without proving especially attractive to vessel owners, so completely is tonnage bound over to the ore trade under contract. The rate from Duluth is now 3½ cents and will probably go to four and even better, making one grain trip equal to two ore trips, a condition which every vessel owner would like to take advantage of were he able to do so. Undoubtedly the grain situation will make the closing of navigation attractive to vessel interests. There is a great volume of grain to be moved and the question of moving and storing it has become a serious one. The railways certainly cannot handle it and it would not be surprising if the most attractive figure is paid to vessels for winter storage at Buffalo.

The lumber rate has been advanced to $3 and is firm at that figure, there being more cargoes than vessels. Coal has been moving somewhat more freely to Lake Erie docks, which would indicate a better condition of car service, though not sufficient to materially alter the general state of congestion which is sadly crippling the movement of the staple commodities on the lakes.

IMPROVEMENTS AT LORAIN YARD

When the improvements now under way at the Lorain yard of the American Ship Building Co. are finished the yard will embrace forty-three acres with two great dry docks and a launching slip 900 ft. long, together with machine shop, boiler shop, foundry and other shops to build a vessel complete. As soon as the winter's building program is over the yard will be entirely reconstructed, the present slips being filled in to make room for the new ones. The new dry dock and the new slip will enter the river upon a diagonal instead of at right angles as at present. The new dry dock will be 750 ft. long, 125 ft. wide and 22 ft. deep. Four building berths will be provided, two launching into the new slip and two into the new dry dock. The new yard will be the most complete of the company's extensive plants.

The keel of one of the two Mitchell steamers will be laid down at Lorain on Monday next. As soon as the new steamer J. G. Butler is off the stocks, the keel of the second Mitchell steamer will be laid and this with the new Hawgood steamer will complete the winter's building program at the Lorain yard.

CHICAGO GRAIN REPORT

Chicago, Oct. 17.—Grain freights opened the week steady on the basis of 2¼ cents to 2½ cents Buffalo corn according to locality and size of cargo. The Lake Ontario shipping is somewhat unsettled and rates, dependent upon going conditions, varying around 4 cents and 4¼ cents Kingston and Ogdensburg. By reason of the more attractive offerings, Lake Superior ports appear to have the call on regular Montreal carriers. Due more especially to congested situation at Buffalo the lake movement of past week is comparatively light, while the railroads and lake lines, as will be noted in the usual distribution, found no difficulty in providing for their full capacity. E. J. Fleming & Co. say that it seems likely that present going rates will hold for the time being, although a clearing of the difficulties at Buffalo permitting of more freedom in vessel offering would stimulate a much improved activity in lake routing.

Shipping of the past week was thus distributed: via all rail lines, of flour, 98,238 bbls.; wheat, 142,510 bu.; corn, 468,070 bu., and oats, 1,615,200 bu.; via lake to Buffalo and other American ports, of flour, 168,871 bbls.; corn, 524,000 bu., and oats, 45,000 bu.; and via lake to Canada points, of flour, 1,500 bbls.; corn, 376,000 bu., and oats, 671,000 bu.

Lake and Rail Shipments:

	This week.	Last week.	Same week last year.
Wheat	142,510	119,629	614,680
Corn	1,368,503	1,478,458	1,649,009
Oats	2,332,734	2,054,458	1,739,412
Rye	23,857	107,775	22,908
Barley	185,932	230,405	271,413
	4,053,536	3,990,725	4,207,482
Flour	268,566 (bbls.)	250,544	168,904

	Since Jan. 1, 1905.	Same time last year.
Wheat	10,442,358	12,434,546
Corn	77,569,569	61,115,086
Oats	46,361,916	37,127,640
Rye	906,249	996,118
Barley	3,510,123	3,575,525
	138,790,215	115,248,915
Flour	5,308,983 (bbls.)	5,817,533

Stocks of grain in elevators:

	This week.	Last week.	Same week last year.
Wheat	5,843,000	5,716,000	4,760,000
Corn	2,788,000	3,620,000	3,312,000
Oats	11,647,000	10,693,000	11,005,000
Rye	307,000	276,000	704,000
Barley	390,000	270,714	217,000
	20,975,000	20,593,714	19,998,000

The Manila Electric Railway & Lighting Co., of Manila, P. I., which is controlled and operated by J. G. White & Co., of New York, have secured the services of Mr. T. K. Wells as superintendent of transportation. Mr. Wells has had a wide experience in railroad work, having been with the Wabash railroad and the St. Louis, Iron Mountain & Southern railroad for fourteen years, and with the Syracuse Rapid Transit Co. for eight years.

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LIVERPOOL SHIPPING LETTER

Liverpool, Oct. 9.—The autumnal congress of the Association of Chambers of Commerce of the United Kingdom held at Liege, Belgium, on the invitation of the Anglo-Belgian chamber on Sept. 5 and 6 had under consideration several resolutions relating to shipping and kindred subjects. In the first place the congress approved a resolution for the co-ordination, improvement and extension of English and Welsh canals, a subject which is to be stubbornly fought out in the next session of the British parliament. The congress also decided without discussion that the mercantile and maritime law of all nations should, as far as possible, be assimilated, and that it be referred to the council of the association to consider and report to the annual meeting as to the best means of giving effect to this proposition. In regard to the Suez canal regulations, it was further decided to ask that the influence of the British foreign office and the Board of Trade may be exerted with the Suez Canal Co., with the object of re-establishing the status quo ante in the matter of partially enclosed spaces which form no part of the registered tonnage of the vessel, provided no cargo be carried in those spaces, also that owners of all classes of British shipping making use of the canal should be adequately represented on the London committee. It was stated in the discussion that the total world's tonnage passing through the canal was 13,400,000 tons, of which the British tonnage amounted to no less than 8,470,000 or 63.2 percent, a steady increase on previous years. The British government in 1875 acquired 176,602 of the 385,460 original shares of the canal at a cost of $20,000,000. The committee of management numbered thirty-two, the British representation consisting of three gentlemen appointed by the government department, and seven ship owners. The resolution asked the chambers to approve of attempts being made to increase that representation.

From the returns compiled by Lloyds Register of Shipping it appears that, excluding warships, there were 474 vessels of 1,325,328 tons gross under construction in the United Kingdom at the close of the quarter ended Sept. 30, 1905. The tonnage under construction has shown a steady increase since December, 1903, and the present figures are within 87,000 tons of the total reached in September, 1901, which is the highest on record. As compared with the return of the June quarter the figures show an increase of 24,000 tons, while the March quarter's total is now exceeded by 74,000 tons of the vessels under construction in the United Kingdom at the end of September, 375 of 977,491 tons are under the supervision of the surveyors of Lloyds Register with a view to classification by this society. In addition, 42 vessels of 118,966 tons are building abroad with a view to classification. The increase of 276,000 tons in the amount of work now in hand, as compared with December last, is practically all for ship owners in the United Kingdom, although Germany has increased her orders from 34,450 to 50,440 tons, while Norway and one or two other countries have decreased their quota. Another satisfactory feature is that the amount of work on the stocks "for sale" has been considerably reduced during the quarter. Of the tonnage now under construction, 446 are steamers of 1,320,698 tons, and 28 sailers of 5,230 tons, Great Britain claiming 348 steamers of 1,103,899 tons and 12 sailers of 2,112 tons. Germany follows with 50,440 tons of steamers, Norway being a bad third. Warships are of course excluded. There are under construction at Glasgow 84 steamers of 280,681 tons (compared with 74 of 235,248 tons at the same period of last year), and eight sailers of 2,340 tons; at Newcastle-on-Tyne, 77 steamers of 253,105, against 69 steamers of 212,779 tons; at Greenock 63 steamers of 203,949 tons, against 44 steamers of 119,011 tons; at Belfast 24 steamers of 213,530 tons, against 18 steamers of 163,010 tons; at Sunderland 51 steamers of 169,835 tons, compared with 46 steamers of 155,158 tons; at Middlesbrough and Stockton, 22 steamers of 84,220 tons, compared with 18 steamers of 58,510 tons; at Hartlepool and Whitby 19 steamers of 65,570 tons, compared with 14 of 45,059 tons; and at Barrow, Maryport and Workington, six steamers of 2,560 tons, against nine steamers of 10,680 tons. Warships under construction in the United Kingdom include five first-class battleships, nine first-class armored cruisers, together with torpedo boat destroyers and submarines of a total displacement of 213,510 tons for the British admiralty; other warships building being two battleships and two cruisers totaling 50,800 tons displacement are for foreign account.

Instructive and interesting information is contained in the annual report on the "Progress of Merchant Shipping in the United Kingdom and the Principal Maritime Countries," issued by the British Board of Trade. The following figures are taken from the tables headed "Foreign trade of the principal ports in the United Kingdom" and "Foreign trade of the principal foreign and colonial ports." In the case of the British ports the 1904 figures are given; in that of the foreign ports the 1903 figures are the latest available.

ENTRANCES.

	1902.	1904.
London	10,179,023	10,788,212
Liverpool	6,843,200	7,986,584
Glasgow	1,618,663	1,566,478
		1903.
Hamburg	7,820,244	8,130,288
Rotterdam	6,029,013	6,934,761
Antwerp	8,350,733	9,040,183
New York	8,982,767	9,053,096
Hongkong	8,253,591	9,612,292

CLEARANCES.

	1902.	1904.
London	7,385,085	7,850,947
Liverpool	6,314,514	6,730,206
Glasgow	2,525,554	2,754,508
		1903.
Hamburg	7,953,078	8,336,351
Rotterdam	5,764,373	6,662,858
Antwerp	8,325,589	9,099,001
New York	8,415,291	8,847,072
Hongkong	8,217,621	9,592,597

The following figures show the total tonnage of British vessels entering and clearing at British ports in trade with the United States for the years 1853 and 1904.

	Tons.
1853	912,038
1904	11,829,772

The total tonnage of the United States vessels clearing and entering at British ports in trade with the United States was 1,622,512 tons in 1853, and 701,240 tons in 1904.

In regard to the total tonnage on register in the world, it is still a case of "British empire first and the rest nowhere." Here are the largest figures:

Country.	Total Tonnage 1880.	1904.
United Kingdom	6,574,513	10,554,520
Canada	810,665	680,780
Newfoundland	76,974	125,500
Australia	182,434	351,639
British India and Ceylon	89,282	91,138
New Zealand	27,306	109,439
Other British possessions	184,561	243,079
British empire total	7,954,708	12,156,101

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	1880.	1903.
Norway	1,518,658	1,443,904
German empire	1,181,525	2,322,045
France	919,298	1,235,341
Italy	999,196	1,044,758
United States (foreign trade)	1,352,810	888,776
United States (including lake and river steamers)	2,715,224	5,198,569
Japan	89,309	979,423

The following figures show the gross addition to tonnage to the register in the leading countries for the years 1895 and 1903 or 1904:

Country.	Tonnage added. 1895.	1904.
United Kingdom	558,401	701,437
Norway	113,346	.....
Germany	119,215	177,259
France	51,300	76,065
Italy	41,714	97,524
United States	111,602	436,152

The strong position of English ship building is demonstrated by the following figures of the tonnage built in the United Kingdom in 1894 and 1904.

	Tons.
UNITED KINGDOM.	
1894	660,492
1904	884,259
UNITED STATES.	
1904	387,286
FRANCE.	
1903	75,915
GERMANY.	
1903	162,058

It is stated here on good authority that plans are being settled for the building of two large new turbine steamers for the Allan Line. Ship builders are to be asked to tender for the construction of these vessels, which, it is expected, will be ready toward the end of next year. The new boats will be both larger and speedier than their present turbine boats, the Victorian and Virginian. The company is well satisfied with the results of the first season's run of their turbine steamers, which have become very popular with the traveling public. It is reported that the new turbine boats will be 600 ft. in length, and have accommodation for about 3,000 passengers in all classes. They will have a speed of about 20 knots. Their dimensions are given as follows: 600 ft. long by 65 ft. by 46 ft. The Allan Line has at present a weekly service between Liverpool and Quebec and Montreal and other Canadian ports, and when the new boats are ready the weekly service will be a turbine one.

The casualties to vessels of 500 tons gross register and upward posted in the Loss Book of the Liverpool Underwriters' Association during September comprise the following total losses: British sail 3, tonnage 4,434, as against 6 of 10,398 tons in the corresponding period of 1904; steam 7, of 18,478, compared with 8 of 21,608 tons in September, 1904. Foreign: Sail 3, tonnage 2,142 tons, as against 3 in 1904, of 5,380 tons; steam 6, of 11,133 tons, as against 3 of 5,690 in the same month last year. The partial losses numbered 384, against 377 in September last year. The aggregate number of total and partial losses for the past month was 403, compared with 397 in September, 1904, 455 in 1903, and 401 in 1902. The nature of casualty is returned as follows: Strandings, 140; collisions, 142; weather damage, 46; damage to machinery, shafts and propellers, 40; fires and explosions, 18; founderings and abandonments, 2; missing, 2; and other causes, 13.

As instancing the success of the Baltic and White sea conference, it is stated that a large firm of steamship owners in the north of England, whose vessels are principally engaged in the Baltic trade, have, up to date, chartered 26 cargoes of wood for their own steamers, aggregating over 20,000 standard. In 17 of these cases, increases above the minimum rate, varying from 6 cents to 72 cents per standard were obtained. For West Hartlepool, the east coast of Scotland and Holland substantial increases have also been obtained. Only in nine cases was the minimum Baltic rate accepted. In no instance was less than the conference minimum taken.

The Cunard Line triple-screw turbine steamer Carmania, 20,000 tons, the biggest turbine steamer in the world, and the first turbine-propelled steamer between the United States and Europe, is announced to sail from Liverpool for New York on Saturday, Dec. 2. The Carmania is, so far as magnificent passenger accommodation and size are concerned, a sister ship to the Caronia, which has already made such a splendid reputation for herself with the traveling public on both sides of the Atlantic. By the addition of these two great floating hotels, the Cunard company have increased their tonnage during 1905 by 40,000 tons. With regard to the other two fast turbine steamers now building at Clydebank and on the Tyne, it is interesting to note that the gigantic stern frame castings for these leviathan vessels have just been made. The stern post weighs 47 tons, the after brackets 22½ tons each, the forward brackets 24 tons each, and the total weight of the rudder will be about 70 tons. A charge of 70 tons of molten steel was required in casting the stern frames, and the total weight of the castings, including the stern frame hatches and rudder, is about 220 tons. These are stated to be the largest castings ever produced in Britain and will be ready for dispatch to the ship builders in a short time.

The first of the new Canadian Pacific steamers now building on the Clyde is to be launched on Nov. 11, and the second in about five weeks' time.

HULETT UNLOADERS AT HURON

The Wellman-Seaver-Morgan Co. has just been awarded the contract to furnish for the Wheeling & Lake Erie railway at Huron, O., a complete ore handling plant, consisting of four Hulett ore unloading machines, equipped with the Hulett patented excavating bucket. These machines will be able to span four tracks, having cantilever at the rear of the machines and folding boom at the front or water side of the machine. The plant is to be completed by May 1, 1906.

The Wellman-Seaver-Morgan Co. has recently closed a number of important contracts for steel works machinery for Great Britain, and mining outfits for Nevada and Mexico.

John I. Thornycroft & Co., Ltd., the Chiswick ship builders, have recently distinguished themselves by dispatch in construction. The building of the single screw steam tug Poderoso for the Buenos Ayres & Pacific Railway Co., for service at Buenos Ayres, is a case in point. The Poderoso is 75 ft. long, 18 ft. beam and 9 ft. 3 in. deep. She is fitted with compound surface condensing engines and return tube boilers, the cylinders being 15 and 30 by 22-in. stroke, and the boiler 10 ft. 6 in. in diameter by 10 ft. in length. The order was placed on July 20, and the firm were under guarantee with the party to deliver the boat within twelve weeks of receipt of the order. The vessel was constructed in eleven weeks, a premium being earned for quick delivery.

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AT THE HEAD OF THE LAKES

Duluth, Oct. 18.—The jump of grain freights to 3¼ for big carriers and 3½ for line boats has been a surprise to the trade, and many vesselmen have been carrying stuff at far less than they might have received on account of their early anxiety to fill their ships on 2 and 2½ cent stuff, which they were able to make good profits on. The reason for the advance is doubtless the requirements of the Pittsburg Steamship Co. and other ore carriers that their tonnage contracts be carried out in full and without deviation, which is keeping the lake fleet in ore and giving few ships for grain. There are not to exceed three or four good wheat cargoes out of the head of the lake every two days, but the ships to carry even this are scarce. A good many vessels have been in ship yard the past few weeks undergoing repairs, and others have been obliged to carry out their contract requirements. The big carriers at such a rate as that of now are fairly coining money and should make dividends with great frequency and regularity.

Total receipts of grain at the head of Lake Superior for the past week have been 3,690,000 bushels, and shipments 2,170,000, so there has been quite an increase in stocks in the various elevators. Receipts have been small on account of the car shortage, but are expected to increase from now on considerably. Flax is coming in proportionately more rapidly than wheat.

Lumber shippers from the head of the lake say the business from now to the close of the year will be great, much greater than it has been, though it has been very large all summer. There is an enormous quantity of lumber from Duluth and interior mills to go forward almost at once. On Monday there were twenty-seven boats loading lumber at Duluth docks, of which five were at the Fifth avenue dock of the Northern Pacific road, three at the Third avenue dock of the same road, and four at the west end dock of the Duluth, Missabe & Northern road. All these latter boats were loading lumber that had been brought to Duluth by rail from interior points, those at the inside Northern Pacific dock from Cloquet mills, those at the outside dock of the same road from Cloquet and Winton, and those at the Missabe from Scanlon mills. Two Harbors is shipping about 5,000,000 ft. per month, all from Winton mills.

The Duluth office of the United States engineers is doing a little work at Port Wing breakwater, on the south shore of Lake Superior, but is in general closing up its contract and field work for the winter. This office has done about $5,500,000 worth of work in the past few years, the largest items of which, aside from the continuous dredging job at Duluth-Superior harbor, have been the monolithic piers at the Duluth and Superior entries to the harbor and the Marquette pier. The second of these is only well started, and cannot be completed for at least two years yet. This work, as well as that at Duluth, and elsewhere, has been exposed to the full fury of the heaviest gales, and the protection piers at the Superior entry have been twice swept away. But the total loss from such storms has been only about one-fifth of one percent of the work done. Marquette wants another breakwater, and congress will be asked to make appropriation for the same. It is designed that this shall extend northward toward the present structure, and it is proposed that it shall be of concrete, similar to the north breakwater. It is proposed, too, that the north one be extended 1,500 ft., and there is no doubt that money for this will be forthcoming whenever any new river and harbor bill is passed.

The first cargo of coal for the new M. A. Hanna dock arrives this week and enough of the dock has been completed to handle it expeditiously and store it easily. The company has opened offices in Duluth, Minneapolis and St. Paul, and will be in the wholesale and retail trade on a large scale. The plans for the proposed Osborne dock have been completed and contracts for construction are to be let soon. The machinery will be of the Mead pattern, which is a very fast unloading plan. The dock will be almost a duplicate of the Hanna plant, and is situated between it and the Connors point dock of the St. Paul & Western Co., making three in a row. Several small contracts have already been let and work has begun on them. The dock will be 1,100 by 400 ft. and will store about 300,000 tons.

AROUND THE GREAT LAKES

The schooner King Fisher, driven ashore at the foot of Case avenue, Cleveland, is in bad shape and will probably be a total wreck.

The schooner Burton, which went on the rocks at Barcelona last week, has gone to pieces. She was owned by Capt. Thomas McDermott.

The steamer Frank Hecker, of the Gilchrist fleet, left the St. Clair yard of the Great Lakes Engineering Works this week on her maiden trip.

The steamer Western States will make her last trip from Detroit on Oct. 20. The Eastern States will cover the route until the close of navigation, leaving Detroit every other day.

Capt. Adam Weckler, for five years keeper of the Ludington life saving station, has been dismissed by order of the treasury department at Washington, owing to a quarrel between himself and his crew.

The city of Marquette will ask congress at its next session for an appropriation for another breakwater extending from the south side of the bay northward in the direction of the north pier.

The schooner Elizabeth, lumber laden, dragged her anchors and was driven ashore north of Menominee last week and pounded to pieces. She was owned by Capt. Fred Hutchinson of Marinette.

The wreck of the Canadian steamer Melbourne burned in Murray Canal three weeks ago, has been sold to B. W. Folger, of Toronto. He will raise the hull in order to save the machinery.

The Pittsburg Coal Co. will build a dock in St. Mary's river for the purpose of fueling steamers. The dock will be 1,000 ft. in length and will have a storage capacity of 35,000 tons. The dock will be built by the Pittsburg Coal Co. itself and not under contract.

The new steamer J. G. Butler, building at the Lorain yard of the American Ship Building Co. for Capt. Charles L. Hutchinson and others of Cleveland, will probably be launched on Nov. 4, should weather conditions continue favorable. The keel of this steamer was laid on Sept. 6. There is a probability that she will be able to make one trip during the present year, though she was not promised until 1906.

The steamer Gladstone put into Milwaukee this week with 8 ft. of water in her hold and with all her pumps working to prevent her from sinking. The leak was caused by the buffeting of the gale on Lake Michigan and the crew was completely exhausted by their efforts when the ship arrived in Milwaukee. Other vessels, including the steamer Pasadena, bound from Lake Superior to Chicago with a cargo of ore were compelled to run for shelter also.

Wreck Commissioner Spain has found the steamer Empire wholly responsible for the accident in which the government steamer Hosanna was ranged and sunk in Montreal harbor, Sept. 5. The certificate of Capt. Gillespie as a navigator of passenger steamers in inland waters has been revoked, and the commissioner further advocates the examination of the facts surrounding the running of the steamer Empire under an unauthorized name and on expired licenses.

The Merchants and Commercial Clubs, the Illinois Manu-

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facturers Association and a number of Chicago officials were taken on a tour along both branches of the Chicago river last week by the River Improvement Association. The various obstructions which make it impossible for large vessels to navigate the river were pointed out. A new turning basin costing $250,000 has been constructed at North avenue where vessels 600 ft. in length may turn around, but no vessel longer than 350 ft. can get up there, owing to the Kinzie street obstructions. In the south branch, the street car tunnels at Washington, La Salle and Van Buren streets, prevent what is otherwise a magnificent channel to be properly developed. Congress will be petitioned for a relief at its next session.

OBJECTS TO THE ILLUSTRATION

Editor *Marine Review*: In a late issue of your paper under the heading of "Overloading Vessels" you publish a long letter from your Buffalo correspondent. I do not write for the purpose of finding fault with the general statements made in that letter but want to call attention to the paragraph wherein your correspondent endeavors to prove that the overloading of ore carrying vessels is the cause of the loss of many steel steamers principally because the cargo is not properly trimmed, and as an illustration he mentions the name of a Canadian steamer which was lost on Lake Superior some years since. Let me quote the correspondent's own words:

"The effort to save cost has cut out a great part of the trimming of cargo so that when a vessel sets out with an ore cargo which is so heavy and inert, there is a stack of it at each hatch with a circle of much less load all around it. In the case of the steel fleet this action attacks the rivets and there is a danger of their coming in two or their heads pulling through the sockets and the vessel goes down in a gale, or possibly does not wait for one. There are those who say that the ill-fated Canadian steamer Bannockburn must have gone down as a result of such a condition." Now, sir, I may have omitted a few words from this paragraph but the omittance does not alter the sense in any way. It does seem very strange to your Canadian readers that your Buffalo correspondent should come over to Canada and select the loss of the only Canadian steel steamer to illustrate his remarks, when so many and better illustrations are to be found close by his own door.

The steamer Bannockburn was built to the highest class of English Lloyds, and Mr. Frank E. Kirby, of Detroit, after examining the specifications of that vessel stated that these were heavy enough for a vessel of 3,000 tons, and I will venture the statement that there is not a vessel of 2,500 tons register on the inland waters built of so heavy material as the steamer Bannockburn, which only registered 1,700 tons. I find that the steamer Bannockburn carried one or not more than two loads of ore, so that this ship cannot have been very much weakened from this cause. When the Bannockburn was lost she had 2,400 tons of wheat on board and the same ship has carried 2,700 tons of coal up the St. Lawrence river without submerging her Plimsoll mark and with more of a side out of water than any modern lake steamer. No one knows, as far as I can learn, the cause of the Bannockburn's disaster. The boilers may have exploded; the engine might have gone through the bottom of the ship; the ship may have torn her bottom out by jumping over Caribou island reef. Any one of these reasons would have caused the disaster, but these are all surmise and guess work, but we do know that the Western Reserve parted in two, bound up Lake Superior in an ordinary breeze of wind. We remember that the Gilcher and Hudson were lost, and coming nearer home we have an example of a lengthened vessel and several others lost in the late storm, any one of which offer a fair subject for criticism and argument. Then why should your Buffalo correspondent come so far from home to find illustrations for his theories?

Your correspondent asks that the crews compel the owners to adopt a load line and yet he refers to the loss of a Canadian vessel which had a Plimsoll load line below which this ship was never loaded.

THOS. DONNELLY.

Kingston, Ont., Oct. 6.

SHIP BUILDING IN BRITAIN

Birmingham, Oct. 8.—Very little now is heard of laid-up ships and orders are being placed with gratifying regularity. Messrs. Constantine, Pickering & Co., one of the most important Middlesbrough firms, have just placed an order for three steamers with various builders on Tees side, making five vessels during the present year.

The persistent rumors of the past week, based upon large Russian orders for battleships alleged to be pending, have no doubt stimulated the market. Russian agents, it is said, are already in this country negotiating large orders. Anyhow, British shipbuilders are optimistic on the subject and claim to be able to replace the Russian navy more rapidly than any other builders. The following are the eight principal shipyards: Messrs. Vickers, Son & Maxim, Barrow; John Brown & Co., Clydebank; Messrs. Cammell, Laird & Co., Birkenhead; Messrs. Armstrong, Whitworth & Co., Newcastle; Palmer's Ship Building Iron Co., Jarrow; Fairfield Ship Building Co., Fairfield; Thames Ship Building Co., London, and Wm. Beardmore & Co., Dumbarton. In addition to these many smaller firms could supplement the output by building torpedo and other craft. Expectations of Russian orders are based mainly on the contention that ships can be built here far more cheaply, while as to output, our yards have turned out as much as 1,850,000 tons in a year, no less than 400,000 tons being at one time on the stocks. Most of these firms have armor plate mills at Sheffield. In view of possible orders from Japan the outlook for British ship building should be cheerful.

There was a pretty little ceremony on Saturday the 30th ult. at the works of Messrs. Vickers, Son & Maxim, Barrow-in-Furness, when the Duchess of Devonshire in the presence of an enormous crowd launched the Natal, a huge vessel with a displacement of 13,550 tons, a speed of 22½ knots, and a gun power surpassing that of any existing war vessel. Col. T. E. Vickers, C. B., presided at a subsequent luncheon, when the principal toast was "Success to the Natal and the health of the Duchess of Devonshire." The Duke of Devonshire, whose iron and steel interests are enormous, in replying, paid warm compliments to the firm on the large number of battleships and other war vessels turned out. He congratulated Messrs. Vickers on being at the head of one of the most important factors in the promotion of the national security and prosperity. His Grace specially mentioned the fact that the firm had designed and built the Mikasa, one of the most powerful vessels in the Japanese fleet.

Sir Charles V. Maclaren, M. P., presiding at a meeting of Palmer's Ship Building Co., mentioned that at Jarrow they were getting good orders from abroad, in addition to important admiralty work, including the contract for the battleship Lord Nelson of 16,500 tons displacement and 16,750 H. P. During the dull time they found Germany a convenient dumping ground for steel cars. A dividend of 5 percent was declared.

The United Engineering Works, San Francisco, Cal., is building the machinery for quite a number of vessels including one building for Charles Higgins at Lindstrum's yard, Aberdeen, Wash., one for Swett & Loop, building at White's yard, Gray's Harbor, and one for J. O. Davenport, building at Hitchings & Joyce's yard, Hoquiam, Wash.

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CENTRAL PURCHASING BUREAU

Washington, Oct. 18.—(Special.)—All manufacturers who sell equipment or supplies to any branch of the United States government would be affected should any action be taken looking to the establishment of a central purchasing agency for all government supplies as has recently been proposed. The project for the establishment of such a central purchasing agency is one now under consideration by the Keep Commission—headed by Assistant Secretary of the Treasury C. H. Keep, formerly of Buffalo—which was appointed by the president some time ago to investigate the conduct of business in the various government departments at Washington and recommend action looking to the more economical and more expeditious dispatch of business and the adoption of uniform methods in all the various branches of the government.

At present the supplies required by each department are purchased through the medium of its own purchasing agency, each department having a law unto itself as to the plan to be followed in advertising for and opening bids and making awards of contracts. It is claimed that under the present system there is a wide divergence in the prices paid by different departments for the same classes of supplies, and in order to eliminate these and other inequalities the Keep Commission is disposed to recommend to the president the establishment of a general purchasing agency which would advertise for bids upon and contract for all the various supplies required by any branch of the government, shipping all supplies from a central point.

As matters now stand supplies of all kinds, unless specified delivery is stipulated in the contract, are sent to Washington and shipped from the national capital to the various points where required for use. This scheme it is claimed leads to much needless expenditure for freight charges and the proposition as originally framed contemplates the establishment of a general agency in New York where supplies can be assembled at less cost and from there distributed with a further saving to the points of consumption. Presumably this new plan would not affect transactions covering machine tools, large quantities of iron and steel and other purchases which are now purchased on contracts that call for delivery at the navy yards, arsenals or other governmental plants where they are to be used, but it would affect numerous classes of purchases and particularly those where the government buys supplies in bulk for distribution among a number of offices or plants.

It is expected that the president will during the coming session make a recommendation to congress for the establishment of a central purchasing agency in accordance with the plan outlined. The proposed amalgamation would require an act of the national legislature, since that body now makes appropriations for each separate department of the government. Incidently it may be noted that there is some doubt as to whether congress will sanction the scheme in its present form. Already, for instance, Chicago manufacturers and business men are coming forward with the contention that Chicago should be chosen as a site for the agency since it is nearer the center of the country and has advantages over New York in the matter of freight rates and proximity to places of production. It is expected that other cities will follow with similar pleas—each backed by its senators and representatives in congress, and it will not be surprising if this conflict of interests results in the enforced abandonment of the whole plan or a compromise involving the establishment of general purchasing agencies in several different cities.

PANAMA COMMISSION PURCHASES WOODEN CARS

Washington, Oct. 18.—A contract just awarded by the Isthmian Canal Commission is significant as indicative of existing conditions in the purchasing department of this institution. The contract is for 800 forty-ton flat cars for use on the Panama railroad and was awarded to the American Car & Foundry Co., of New York, on their bid of $997 each, delivered and erected at Colon. The contract calls for wooden cars and the officials of the canal commission make no secret of the fact that they would have been inclined to place a contract for steel cars instead of for those of wooden construction had they been able to secure prompt delivery on the steel cars. The canal commission is using every endeavor to expedite work of all kinds and to that end is making promptness in deliveries, a first consideration in the awarding of contracts. In the present instance the steel cars would have cost about $250 per car in excess of the wooden cars, but this disprepancy might have been overlooked. The difference in the guaranteed time of delivery, however, was the deciding factor. The Standard Steel Car Co. could not commence deliveries prior to February and the Pressed Steel Car Co. would not agree to make deliveries under 215 days.

Great improvements are being made in the management of the supplies division of the commission. Mr. David W. Ross, the new general purchasing officer, and who by the way is to receive a salary of $10,000 per year, has shaken up things generally and installed a thoroughly practical business system. In the auditing division where the work was so much behind that bills for supplies and equipment were left unpaid for months there have been reforms whereby all bills are paid within ten days of their presentation.

Among the items for which the canal commission will open bids on Oct. 27 is one of 1,000 ft. of crane chain, 1¼ in., of wrought iron construction.

BIDS FOR NAVY YARD SUPPLIES

Washington, Oct. 18.—(Special.)—A dredging contract for which bids will be opened at the bureau of supplies and accounts of the navy department on Oct. 31 is that for the dredging of 20,000 cubic yards of material from in front of the old stone drydock entrance at the navy yard, Mare Island, California.

Bids will be opened at the same time for ten vertical, direct-acting single-piston steam boiler feed pumps for delivery at the Mare island navy yard and for a number of items in the line of supplies of steel, including 6,606 lbs. of mild-steel ribbed floor plates; 14,086 lbs. of sheet steel; 12,320 lbs. of mild steel; 15,748 lbs. of angle steel; 50 tons of pig iron, Salisbury No. 2; 50 tons of pig iron, Niagara No. 2; and 13,000 lbs. of galvanized sheet steel.

For the Puget Sound navy yard, Washington, bids will be opened on Oct. 31 for two two-motor electric traveling hoists each to have a capacity of 6,000 lbs. Also for one two-ton three motor overhead electric traveling crane.

On the same date the department will open the bids recently called for for fifty iron or steel tables, each capable of sustaining a weight of 100 lbs., which are desired for use as serving tables in the midshipmen's mess hall at the United States Naval Academy at Annapolis, Md. For the Washington, D. C., navy yard estimates will be received for 17,520 lbs.—sixty bars of hexagon nickel steel. For the New York navy yard one combination machine "Vulcan" for iron work.

Among the ship supply items for which bids will be opened on Oct. 31, are 18,000 lbs. of galvanized wrought-

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iron ship spikes; 2,000 lbs. of special crane chain; 8,000 lbs. of marine ship glue and two complete sets of diving apparatus.

SNAGBOAT E. A. WOODRUFF

The United States snagboat E. A. Woodruff, now in use on the Ohio river, was designed by Capt. W. H. Christian, who drew up the plans for the boat thirty-two years ago, and who has been in active command for the last twenty-seven years. She is a powerful piece of floating machinery, and is built to withstand almost any strain. Her hull, which is lined with steel, is 220 ft. long, 48 ft. wide, with a depth of 7½ ft. She is 73½ ft. wide over the guards, and has twenty-six watertight apartments. She has two propelling engines of 20-in. bore and 6 ft. stroke; a steam steering apparatus, four rotary steam capstans and four wrecking engines. She has a great many auxiliaries, one for almost every emergency, and a total of twenty-six cylinders. She carries a crew of forty persons, including the captain and first mate.

"The E. A. Woodruff is the only snagboat on the Ohio," said Capt. Christian. "She has been in operation under her own steam for the last twenty-nine years. Two years of that time I was connected with the boat as head engineer, after which I was made captain. We operate under orders from the government, wherever we are told to go. We usually begin at the head of the river and gradually work our way to the mouth, a distance of about 1,000 miles, removing snags and other obstructions wherever we find them. We are generally busiest in the spring, right after a break-up of the ice. This past spring we were busier than we had been before in years."

Referring to his trip down the river from Cincinnati to Louisville, Capt. Christian said that the channel was almost entirely free of obstructions. "We had little or no work to do," he said, "between here and Cincinnati, but expect considerable work between Louisville and Cairo. I don't know how long it will take to complete this trip, everything depends on the amount of snags and wreckage we encounter on our way down."

When viewed from the front, the Woodruff looks as though she were built on two separate hulls, each coming to a sharp point and forming a V where they come together. Projecting from these points is a huge derrick, attached to the end of which is a mammoth steel beak, resembling that of an eagle in shape. By means of this beak wrecked boats and barges are torn to pieces, which are carried down the stream by the current, thus removing the obstruction to navigation. Other implements, such as those used in pulling snags, may be attached to this derrick. One of these is a huge piece of steel, resembling a wedge, with prongs curving upward. This steel wedge is driven into the snag until the upward-curving prongs become imbedded, when it is an easy matter to lift the snag from the bed of the river by means of chains and pulleys, no matter how deeply imbedded it may be.

"No two snags are treated just alike," said Capt. Christion. "On some we use the steel wedge, and on others we use the grappling hook. In some cases we merely use a log chain, dropping it until it drags the bottom, and then coming ahead by means of ropes and pulleys."

The grappling hook used on the E. A. Woodruff is a mammoth affair, weighing in the neighborhood of two tons. In many instances this is dragged over sunken boats and barges for the purpose of tearing them to pieces.

COAST SURVEY STEAMER EXPLORER

The new United States coast survey steamer Explorer is at work on the eastern Maine coast waters on her first northern cruise, having been turned over to the government last fall, and sent south this spring. The Explorer is one of the finest vessels in the coast survey service and was built by the Pusey & Jones Co., of Wilmington, Del.

The Explorer is schooner rigged, with two pole masts, the small sail area being intended to steady the ship rather than to add to her speed. The main deck is flush, with a slightly raised poop, and pipe railing. The number of boats carried is five, including a steam launch. Ample quarters have been provided below the main deck for a complement of seven officers and thirty men. These include lavatories, bath rooms, and closets, all of which are connected with a sanitary pumping system. Steam heat and electric lights are provided throughout, and special attention has been given to the stowing of her surveying outfit and to a well lighted drafting room.

The dimensions of the vessel follow: Length over all, 147 ft.; length between perpendiculars, 130 ft.; extreme beam, 27 ft., and depth, 14 ft. 6.5 in. The displacement on a mean draught of 8 ft. 7.5 in. will be 450 tons. While the greater portion of the vessel is of wood, iron and steel have been used whenever lightness and strength could be gained without defeating the purpose of the wooden hull. The hull is entirely of wood, with the exception of the knees, bulkheads, coal bunkers and the casing around the stack on the main deck, which are of iron. The keel, main keelson, stem, sternpost, deadwood, frames and breast hooks are of white oak, and the side keelsons, clamps, deckbeams, decks, planking and ceiling of yellow pine. All fastenings driven from the outside are of composition metal; all others of galvanized iron. The hull is coppered to about 1 ft. above the load water line.

The vessel is propelled by one vertical, inverted, direct-acting, open-hearth, surface condensing fore-and-aft compound engine, with cylinders 13 and 26 in. in diameter by 20-in. stroke, driving a four-bladed, phosphor bronze propeller, 7 ft. 6 in. in diameter and 9 ft. pitch. The condenser forms part of the framing of the engine and is fitted with the customary pumps. Steam is furnished by a steel boiler, 10 ft. 6 in. in diameter outside of shell, and 11 ft. long, from outside to outside of ends, with tubular steam drum 36 in. in diameter by 5 ft. long, having 160 3.75 in. tubes and two Morison corrugated furnaces, each 41 in. in diameter. The working pressure is 150 lb.

A donkey boiler, 48 in. in diameter and 7 ft. high is connected with the main boiler and the auxiliary machinery, fire, bilge and sanitary pumps, the distilling machinery, and the heating plant. In addition to the above machinery, there is a steam windlass, a steam winch, an electric generator of 7.5 K. W. capacity, which in addition to lighting the ship operates a 14-in. 20-ampere searchlight; and a distilling apparatus with a capacity of 1,200 gallons in twenty-four hours.

It is formally announced that the chief of engineers of the United States army will not make any estimates for river and harbor improvements for presentation at the next session of congress save for the continuing contracts which have been authorized by law. The apportionment of the funds appropriated by the river and harbor bill last winter has been so arranged as to obviate the necessity for a river and harbor bill at the coming session of congress.

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BIDS FOR NAVY YARD SUPPLIES

Washington, Oct. 17.—A number of firms well known in the trade were represented by the bids opened to-day at the bureau of supplies and accounts of the navy department. In the class calling for three steam windlasses complete to be delivered at the Mare Island navy yard within seventy days, the Hyde Windlass Co., of Bath, Me., was the only bidder, their bid being $2,625.

Three bidders submitted proposals for one improved two-spindle centering machine complete, with three jaw centering chuck, countershaft, necessary wrenches, drill socket, one-half dozen center drills and four center reamers, 60 degrees. The bids were: Compressed Air Mfg. Co., San Francisco, $124; Drew Machinery Agency, Manchester, N. H., $128.75; Pratt-Whitney Co., Hartford, Conn., $157.50.

For one two-motor three-ton electric traveling hoist, suitable for operation on a 220-volt direct current system at the Mare Island navy yard, California, proposals were submitted as follows: Case Mfg. Co., Columbus, O., $575; Curtis & Co., St. Louis, Mo., $1,005; Cleveland Crane Co., Wickliffe, O., $1,150; Niles, Bement, Pond Co., New York city, $595; Pawling & Harnischfeger, Milwaukee, Wis., $895, and the Thomas Co., New York city, $787.50.

Bids were opened for a considerable range of steel supplies for delivery within 150 days at Pacific coast navy yards within from five to eight months' time. On one class comprising ninety plates aggregating about 19,551 lbs. of mild steel the bids were: Carnegie Steel Co., $719.48; Heller Bros. Co., New York, $860.24, and Hoffman & Co., Baltimore, Md., $606.08.

For 309,553 lbs. of mild steel plates the proposals were: Carnegie Steel Co., $8,760.35; Heller Bros. Co., New York, $9,131.81, and Hoffman & Co., Baltimore, Md., $7,491.18.

Heller Bros., the only bidders in the class mentioned, submitted an estimate of $891.96 for supplying to the Puget Sound navy yard 7,650 lbs. of medium steel angles; 5,175 lbs. of medium steel channels; 5,513 lbs. of medium steel I beams, and 4,485 lbs. of light steel channels.

For furnishing one hundred plates of medium steel aggregating 21,347 lbs. the proposals were: Carnegie Steel Co., $749.28; Heller Bros. Co., New York, $939.26, and Hoffman & Co., Baltimore, Md., $597.72.

For 145,382 lbs. of medium steel plates of various sizes, ranging from 7½ to 20 lbs. per square foot, the bids were: Carnegie Steel Co., $4,099.77; Heller Bros. Co., New York, $4,846.07, and Hoffman & Co., Baltimore, Md., $3,518.24.

For 195,000 lbs. of rivet steel bids were submitted as follows: Heller Bros. Co., New York city, $8,190; Hoffman & Co., Baltimore, Md., $6,318; Midvale Steel Co., Philadelphia, Pa., $9,262.50; Temple, Edwards & Co., New York city, $6,318.

For furnishing about 235,000 lbs. of mild steel angles the offerings were: Carnegie Steel Co., $6,998.23; Heller Bros. Co., New York, $7,284.09, and Hoffman & Co., Baltimore, $6,880.81.

The greatest competition was evidenced in the case of proposals for furnishing thirty-two bars (71,945 lbs.) of steel for davits at the Mare Island navy yard. The bidders and their estimates were: Bethlehem Steel Co., $3,417.39; Crucible Steel Co. of America, of Pittsburg, Pa., $2,388.57; Driggs Seabury Ordnance Corporation, Sharon, Pa., $2,590.02; Heller Bros. Co., New York, $3,535.30; Hoffman & Co., Baltimore, Md., $2,374.18; J. B. Kendall, Washington, D. C., $2,590.02, and Midvale Steel Co., Philadelphia, Pa., $3,223.14.

Half a dozen firms submitted proposals for furnishing for use at the Boston navy yard, Boston, Mass., within sixty days of date of contract one locomotive crane of 10 tons capacity. The bids follow: Browning Engineering Co., Cleveland, O., $4,551.75; Brown Hoisting Machinery Co., Cleveland, O., $6,000; Dodge Coal Storage Co., Philadelphia, Pa., $6,100; Industrial Works, Bay City, Mich., $4,886; North Penn Iron Co., Philadelphia, Pa., $7,000, and the Wellman-Seaver-Morgan Co., Cleveland, O., $5,696.

TRIAL OF STEAMER FIONA

When a few years ago the steamer Fingal was launched from the yard of the Caledon Ship Building & Engineering Co., Ltd., Dundee, she at once assumed a position of eminence among the vessels of the east coast, and to the London & Edinburgh Shipping Co., for whom she was built, she brought little short of renown on account of her high speed. Accordingly when that company decided to add another swift vessel to their fleet the Caledon company was chosen to construct it, and a month or two ago they put forth the Fiona, which was fully expected to surpass the Fingal in the matter of speed. The utmost care was bestowed on her construction, and this was not misplaced, for not only has she proved a most seaworthy craft, but, beating the Fingal's speed record, she now holds the enviable position of being the fastest vessel on the east coast, and probably the swiftest for her size in Great Britain. Her official trial trip was run recently in excellent weather, for although a slight breeze was blowing the sea was as calm as could be desired. After a preliminary run in the morning the Fiona came to anchor at the eastern wharf, and took a large number of visitors aboard, among whom were Mr. D. Inglis of A. & J. Inglis, ship builders, Glasgow; Mr. W. B. Thompson, Mr. and Mrs. Grant Barclay and Miss Grant Barclay; Messrs. Thomas Reekie, sub-manager London & Edinburgh Shipping Co.; A. A. Rose, director; James M'Farlane, consulting engineer, Dundee; Alexander Clephane, superintendent engineer; Benson Taylor, British corporation registry; Harry Richardson, Leonard Kydd, James Mudie, J. W. Carmichael, J. H. Alexander; Charles Clark, Edinburgh; James Herdman, Leith; William Shiers, Leith; David Byars, Dundee; A. Watt, board of trade, Dundee, and W. R. Lindsay, consulting engineer, Dundee. Shortly before 2 o'clock the Fiona, under the command of Capt. Thomson, steamed out to sea, and it was at once evident from the way in which she left everything behind that hers was no ordinary speed. Scarcely had Broughty Castle been passed when the Abertay was left behind, and setting a northward course, the vessel was soon off Arbroath, and ready to tackle the measured mile at Auchmithie. A strong ebb tide had first to be negotiated, and after doing this in grand style the Fiona made three other runs, bringing out an average speed of all but 18 knots. Such an achievement was naturally highly gratifying to all on board, and at once stamped the Fiona as a brilliant success. Her power of developing speed was remarkable, and in this, as in other respects, she shows a marked superiority to the Fingal. Her screw registered 96 revolutions per minute, while her indicated horse-power was 5,400.

Her dimensions are as follows: Length between perpendiculars, 280 ft.; breadth, molded, 36 ft.; depth, molded, 19 ft. 3 in. Her engines are triple expansion with cylinders 32, 49 and 80 in. diameters by 42 in. stroke, supplied with steam from two main double ended boilers 14 ft. 6 in. diameter by 20 ft. 6 in. long, allowed 175 lbs. pressure. She is designed for a speed of 17½ knots per hour when carrying 1,005 tons dead weight.

Walter Runciman & Co., of Newcastle-on-Tyne, have just placed an order with Wm. Doxford & Sons, Ltd., Sunderland, for an improved turret deck steamer of special design, the central feature of which is that the holds will be entirely free from beams and stanchions and will be absolutely clear for cargo. The design is a new one and the vessel will be the first of her type. She will carry 6,350 tons deadweight on a draught of 21 ft. and is especially designed for the lumber trade.

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GENERAL ELECTRIC AWARDS AT PORTLAND

Announcement is made that the superior jury at the Lewis and Clark exposition has approved the following awards in the electrical department, relating to the exhibits of the General Electric Co., which is the largest manufacturer exhibiting in that department.

The highest award granted by the jury is a gold medal. This company received a gold medal for the best exhibit in the electrical department, and also gold medals on each of the following features of this exhibit:

Curtis steam turbine; meters and instruments; time limit relays and oil switches; switchboards, meter controlling panels; circuit breakers and lightning arresters; direct and alternating current motors; direct and alternating current generators; static transformers; automatic voltage regulators; magnetic arc lamp; alternating and direct current enclosed arc lamps; mercury arc lamps; magnetic starting device for mercury arc lamps; mercury arc rectifier; railway motors and controllers; mining locomotives; searchlight and method of control; progress and development in the art.

For its new metalized carbon filament incandescent lamps, the company also received a gold medal. This exposition in common with all the recent American expositions is lighted by Edison incandescent lamps, furnished by the General Electric Co. A very unique feature was the extended use of meridian lamps.

PERSONAL MENTION

Edward Morris, assistant general superintendent of the Chicago Ship Building Co., has resigned.

Capt. Whitney Carr, at Buffalo, has been appointed manager of the Great Lakes Towing Co. tugs at Ashtabula.

Capt. Samuel Leonard has been appointed superintendent of properties for the Great Lakes Towing Co. to succeed W. H. Hill resigned.

Capt. John McArthur, Jr., who was in the schooner Marion W. Page, has been appointed master of the steamer Iron Age in place of Capt. J. H. McCormick, resigned on account of ill health.

Mr. Harry Penton, chief engineer of the Great Lakes Engineering Works of Detroit, has been quite ill at his home during the past ten days with an attack of appendicitis. His condition is, however, now much improved, having passed the danger period and he expects to be about in a week or two.

ITEMS OF GENERAL INTEREST

The protected cruiser Galveston has just returned from its final trial trip at sea in which it exceeded the contract speed requirement of 16½ knots by a fraction of a knot. The Galveston was originally contracted for by the Wm. R. Trigg Co., Richmond, Va., but was completed at the Norfolk navy yard.

Postmaster General Cortelyou has contracted with the International Mercantile Marine Co. to carry the mails from New York to Southampton, calling at Plymouth and Cherbourg, for ten years, with the privilege of terminating at the end of any year after five years on one year's notice. The compensation is at the rate allowed by statute, $4 per mile by the shortest practical route.

Moran Bros, Seatle, Wash., are to build a new steamer for the Puget Sound Navigation Co. to ply between Seattle, Port Townsend and Port Angeles. The new steamer will be built of steel and will be called the Crescent. She will be 157 ft. long, 33 ft. beam and 14 ft. deep. Her engines will be triple expansion, 18, 31 and 50-in. cylinder diameters by 30-in. stroke, supplied with steam from two Scotch boilers, 12 ft. 6 in. by 12 ft.

The Shipping Federation of Canada recently made a tour to inspect with the minister of marine over the entire St. Lawrence channel from Ramouski to Montreal. The party included a representative of every big steamship line trading to Montreal, members of the St. Lawrence Pilotage, engineers of the ship channel and harbor of Montreal and the minister of marine, Hon. Raymond Prefontaine, with his deputy, Lieut. Col. F. Gourdeau. Concerning the trip, Mr. Andrew A. Allan, of the Allan Line, said that its results would be extremely beneficial to the St. Lawrence route. He added that a list of the necessary alterations and improvements had been drafted and submitted to the minister of marine who had concurred in them.

The twelfth meeting of the executive committee of the National Board of Steam Navigation was held in the rooms in the Produce Exchange in New York last week. A sub-committee consisting of F. G. Osborn, chairman, H. L. Joyce, H. L. Des Anges and Horace Wilson, reported that the supervising inspector of the steamboat inspection service had agreed to rescind for the present the rule calling for United States standard pipe threaded on all hose connections. The recent order to reinspect steam vessels was also discussed and information submitted that such inspection is to be mainly to the equipment on steamers which could be made without inconvenience and while the vessel was in service. Mr. W. H. Pleasants, vice president and general manager of the Ocean Steamship Co. of Savannah, and Mr. Henry Gillen of the American Transportation Co. of New York were elected to membership.

The eighteenth annual report of the Interstate Commerce Commission shows that 487 complaints were filed for consideration and action during the year 1904, although the number of tons of freight carried by the railroads was in the neighborhood of 1,300,000,000. The commission in its report states that these cases included both formal and informal complaints as well as proceedings and investigation instituted on its own motion and two cases submitted to the commission by agreement of the parties for investigation and determination of the questions in dispute. The number of formal cases and investigations instituted during the year was sixty-two, involving directly the rates and practices of 302 railroads. Fifty-eight hearings have been held in different parts of the country. Besides disposing of a large number of complaints through informal investigation and deciding numerous questions arising in relation to the publication and observance of tariffs, the commission has rendered during the year twenty-seven decisions in reports and opinions upon contested cases or investigations made by the commission on its own motion.

There was an official trip of life boats and life rafts last week off Pier A, North River, New York. The inspection was conducted by Gen. George Uhler, Capt. Ira Harris and Capt. John W. Oast of the steamboat inspection service. The Carley life float made a remarkable record against the old fashioned boats. A float 12 by 8 ft. carried as many as thirty-three men inside the basket with nearly a score more hanging on the outside. The Engelhardt collapsible life boat was also found to have extraordinary powers of flotation. Twenty-eight men crowded into a 20-ft. boat of this type but although they all pressed to one side and some stood on the gunwale, it was apparent that the boat could not be capsized. The boat can best be described as a buoyant raft fitted with water-proof canvas sides which are raised on hinged uprights when the raft is to be made ready for launching. What gives the craft its extraordinary flotation power is the cellular construction of the body of the boat and the material with which the cells and the fenders are filled. This is a substance known as kapok. It is understood that this boat will be installed on the battleship Illinois.

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OUR COMMERCE*

HARVEY D. GOULDER, CLEVELAND
President Merchant Marine League

Transportation, its availability on equal terms to every one, its extension by every legitimate means, is one of the great questions. It would be idle to raise wheat or corn or cotton or to mine iron ore and copper, raise cattle or bring forth any of the products of the forest, the farm or the factory, without that exchange which depends primarily, almost absolutely, on transportation. Broadly speaking, commerce is transportation. Within our own country, we are solving and there are signs that as a people we are going on to solve honestly, courageously and for abiding good those problems of transportation which grow more difficult, require more earnest attention, demand greater courage as we advance from crude, elemental conditions. We in the great lakes region boast cheapest carriage in ships which bear comparison with any in the world, with credit of being the finest working fleet afloat; and this beyond fair argument has come through direct government support of the coasting laws and money to so improve our channels that a modern freighter carries in a trip what her prototype carried in an eight-months' season of navigation. But this is not all. Our ship is aided by terminal facilities to load her 10,000 or 12,000 tons in a couple of hours and unload it within five hours, or, speaking of ordinary practice, to load in a few hours and discharge within a day. So has come an output of nearly 35,000,000 tons of iron ore, 80 to 85 percent in the production of the pig iron of the country this year, which will exceed that of England, France and Germany combined; but with this has gone the opening of the great harvest fields which in thirty-five years have, with advantage of freight rates, increased their lake shipment from 12,500,000 to over 300,000,000 bu., with corresponding movement of coal and other products. But transportation, commerce, intercommunication, collocation of business, have made it so that there can be no partial, local thrift. While we do these things on the lakes, the south produces and manufactures from cotton; timber grows throughout the country; wheat in the northwest is matched by corn in the southwest; manufactures extend through the land; our interests so intermingle that even the question of tariff may hardly in any sense now be local in effect; everything bearing on the commercial life of this people is so coming to be of general consequence, that a man may no longer expect to be heard with patience on the merits, wants or demands of any section without full regard to its general effect. He is narrow indeed who cannot look out over our common heritage and realize that there could be no such prosperity, none of the good things doing in any part, except the people of a common country, following out their particular opportunities, are doing well.

Great results are seen on other internal waterways to which attention of the people will be directed until equal or even greater benefit may be shown. Our railroads, hauling freight at less than half the cost of any other country, are improving their service by reducing grades and, so far as possible, taking out the crookedness of the tracks, and the American people are going forward in determined spirit with President Roosevelt and the congress to remove so far as possible any other crookedness.

We have a home market in which figures go almost beyond understanding, but it is no longer possible to stop at the confines of our own country. While in the beginning we imported manufactured goods and sent out rudimental products, more and more we are using raw materials in manufacture; 35 percent of our population is urban, and it is an open prediction that in a few years the United States will not produce food stuffs beyond the needs of our own people; while steadily our more distinctly world competitive manufactures are increasing in the export list.

We have pacified Cuba; Secretary Taft believes that the Philippines must be a charge for a generation; we are starting to build a world canal at the isthmus; our president, with general acclaim, has been drawn into the settlement of one of the great wars of history and therein reflected honor and glory upon the nation. We have a great and growing navy, for which the nation can afford to furnish money almost without stint, but embarrassed in finding officers and men, because while ships can be built to order as money is available, sailors require time in their training. We have come to be a truly great nation, ready, able and withal willing to take first place in the world markets, but deserving and requiring from a purely economic standpoint an efficient system of delivering our goods abroad; and yet we remain dependent on rivals in trade to carry our world competitive goods abroad for introduction and sale, while the overwhelming testimony of business men all over the United States is that this is poor trade policy; that our trade is seriously handicapped and many producers have abandoned the foreign field because of unreliable and unsatisfactory service and discouragement of American goods.

That satisfactory service will or can come without some form of government aid cannot longer be claimed with any show of fairness. According to official figures, the carrying capacity of ships in the world between 1890 and 1904 increased from under forty-four millions to seventy-six and a half million tons. In this interim, England increased from twenty-four to thirty-eight and a half millions; Germany from three and a third to nearly seven and two-thirds millions; France from two and a quarter to three millions; Norway from two to three and a third millions; Japan from one hundred and fifty thousand to eight hundred and thirty thousand tons. Statistics before me give tonnage in custom house measurement for the United States, which may be a little more than doubled to get actual carrying capacity. These show that we had (custom house measurement) in 1861 two and a half millions in foreign trade, which had run down in 1890 to a million tons, and in 1904 to eight hundred and eighty-eight thousand tons. Despite any argument to the contrary, the other countries, aside from the facts of cheaper construction and operation through cheaper labor, have given definite aid in their foreign shipping, and it is incorrect to say that this has been confined to mere mail carriage.

On the other hand, our coasting enrolled tonnage, which has had the support of the coasting laws, has increased from three and a third millions in 1890 to five and a third millions in 1904. To this may be added that on the great lakes, where increase of size and draught has been made possible by government improvement of channels, the tonnage (custom house measurement) increased from 1,000,000 tons in 1890 to 2,000,000 tons in 1904, and there are now building and under contract for this trade more

*Address delivered before American Bankers' Association, Washington, Oct. 13.

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and better ships than ever before in the United States for any trade. With the exception of four ships now building to replace four taken over from the Ward Line for Panama use there is not and for a long time has not been a single ship of any size or description building in the United States for foreign trade, where the American people pay nearly $200,000,000 annual freights against a quarter of that sum on the great lakes.

We are so abjectly dependent on foreign rivals in trade, that our flag has almost disappeared from the ocean. Only through apathy of our people, unmatched and not rivaled in world history, nourished and lulled into soft acquiescence by specious argument of our opponents in the shipping interest, can it be that, when the United States shall have spent a possible five hundred millions for a commercial canal at the isthmus, our flag shall go through that canal only on an occasional man-of-war or millionaire's yacht?

In wars between maritime powers, an important duty of the navy has been to convoy merchant ships. If we let things go on as they are, we certainly will not have enough merchant ships to go around for this purpose.

Our league opposes this condition and any argument, thoughtless or intentional, tending to such consummation.

There are those who in apparent sincerity say that the carrying of a nation's goods and the building up of its merchant marine are matters of price simply, and that it is better to get the work done at the cheapest rate, taking our chances in time of need upon our ability to pay any price exacted; and these advocates point also to the fact that already American capital has been invested and the avenue of investment is open in foreign ships to be operated under a foreign flag with foreign officers and men. This may redound to the advantage of some who have the money to invest, but it is destructive of the entire theory that our government exists for the whole people. While opponents of an American merchant marine are saying this, we see each year that we pay over to foreigners about $180,000,000 in freights, of which a good share should be circulated in this country, as are the freights paid in the internal land and marine commerce of the United States. Passing through the builder, the operator, the repairer, the furnisher of ships, and all the allied branches of industry and their employes, it should go into the commercial strength of the nation, and the ultimate argument of our opponents is that this cannot or should not be done because that involves conditions and wages of American citizens, which are better than those abroad. Even in this they ignore fact and reasonable hope that with American wages and conditions of living, shown in internal transportation on land and water, we have the cheapest transportation in the world, and may, with fair encouragement and a proper start do this again on the seas, and so lay forever the ghost of "subsidy."

Humiliating as it is to our national pride; opposing all commercial history; costly as the experience has proven of dependence on the foreign rival for introduction of our products abroad, there might still remain some shred of argument based on cheapness at expense of progress in trade, if the question could with semblance of propriety be permitted to revolve around the turn upon this single element in a complex problem.

This country has not only to admit that following consistently a system of protection in trade, it has neglected the shipping industry, which should have prospered with the rest, and has been prevented by discrimination, however induced; but that this has been done against the example of free trade nations who uniformly have selected the shipping interests for reasons of far reaching national importance, as the one single interest to be maintained and encouraged at any proper cost by that country which can have a merchant marine and would keep its place on the seas.

Adam Smith, in his "Wealth of Nations," said:

"There seems to be, however, two cases in which it will generally be advantageous to lay some burden upon foreign, for the encouragement of domestic, industry. The first is, when some particular industry is necessary for the defense of the country. The defense of Great Britain, for example, depends very much upon the number of its sailors and shipping. The act of navigation, therefore, very properly endeavors to give the sailors and shipping of Great Britain the monopoly of the trade of their own country, in some cases by absolute prohibitions, and in others by heavy burdens upon the shipping of foreign countries."

John Stuart Mill, another world-renowned writer on free trade and economics, says:

"The navigation laws were grounded, in theory and profession, on the necessity of keeping up a 'nursery of seamen' for the navy. On this last subject, I at once admit that the object is worth the sacrifice; and that a country exposed to invasion by sea, if it cannot otherwise have sufficient ships and sailors of its own, to secure the means of manning on an emergency an adequate fleet, is quite right in obtaining those means, even at an economical sacrifice in point of cheapness of transport. When the English navigation laws were enacted, the Dutch, from their maritime skill and their low rate of profit at home, were able to carry for other nations, England included, at cheaper rates than those nations could carry for themselves; which placed all other countries at a great comparative disadvantage in obtaining experienced seamen for their ships of war. The navigation laws, by which this deficiency was remedied, and at the same time a blow struck against the maritime power of a nation with which England was then frequently engaged in hostilities, were probably, though economically disadvantageous, politically expedient."

In 1890 there was what the *North American Review* described as a duel between Mr. Gladstone and Mr. Blaine, one for free trade, the other for protection. On page 49 of the January number of that magazine, Mr. Blaine uses this language, and I may be pardoned for quoting at some length:

"Mr. Gladstone, however, commits himself to the principle that 'all protection is morally bad.' If this has been his belief ever since he became an advocate of free trade, his conscience must have received many and severe wounds, as session after session, while chancellor of the exchequer, he carried through parliament a bounty—may I not say a direct protection?—of £180,000 sterling to a line of steamers running between England and the United States—a protection that began six years before free trade was proclaimed in England manufactures and continued nearly twenty years after. In the whole period of twenty-five years an aggregate of many millions of dollars was paid out to protect the English line against all competition.

"It may be argued that this sum was paid for carrying the Anglo-American mails, but that argument will not avail a free-trader, because steamers of other nationalities stood ready to carry the mails at a far cheaper rate. Nay, a few years ago, possibly when Mr. Gladstone was premier of England, public bids were asked to carry the Anglo-Indian mails. A French line offered a lower amount than any English line, but the English government disregarded the French bid and gave the contract to the Peninsular & Oriental Line, owned by a well-known English company. Still later, the German Lloyd company contracted to carry the Anglo-American mails cheaper than any Eng-

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lish line offered, and the German company actually began to perform the duty, but Englishmen did not want that kind of free trade and they broke the contract with the German line and again gave protection to the English ships. Does not this justify the opinion that the English policy of free trade is urged where England can hold the fields against rivals, and that when competition leaves her behind she repudiates free trade and substitutes the most pronounced form of protection?"

I have it from the management of the *North American Review* that Mr. Gladstone never in any manner answered the challenge, but the English nation has responded in the contract provisions for the new Cunard steamers. When metal ship building came in vogue, and the United Kingdom could produce more cheaply than otherwhere, the free ship policy was adopted in that country. Germany has been going forward in ship building and operation in a wonderful degree, and it has come to be a question with the balance somewhat favoring Germany whether it is cheaper to build the so-called ocean greyhound in Germany or in England. When the British government, therefore, two years ago entered into a contract with the Cunard Line to furnish thirteen millions of dollars to build two ships and give a subsidy of over a million dollars a year for their operation, the British government, for the first time in fifty years, stipulated that these ships should be built in the United Kingdom.

An English writer, member of parliament, Mr. J. Henniker Heaton, speaking of the British practice, said:

"For many years the American mails (as well as American goods) were carried to Europe almost exclusively in British vessels. Early in the century, the British government adopted the sagacious policy of subsidizing the shipping companies which ran vessels to the colonies and the foreign countries. Infant settlements like those at Port Jackson and Sydney or the Cape, could not, of course, supply trade enough to make the voyages remunerative, and now that such settlements have shot up into rich and powerful colonies, the subsidies are continued on a more lavish scale on two conditions: First, that the subsidized vessels were constructed so as to be easily converted into cruisers in case of war; second, that they shall carry the mails. This policy of state aid was so brilliantly successful in developing trade and maintaining the supremacy of the British mercantile marine, that it was adopted in turn by all the great powers, with the single exception, until quite recently, of the United States. As American ships were not subsidized, their vessels could not compete with the Cunard and other companies, the art of ship building languished and the American carrying trade was transferred to foreign bottoms. In 1891, only 13 percent of the exports from the United States were carried in American ships, which at one time had engrossed 90 percent. As a consequence of refusing five millions a year in subsidies during thirty years to native ship owners, or $150,000,000, the United States had to pay in the same period no less than $3,000,000,000 for freights, while their mercantile marine dwindled into insignificance. The fact that the country bore this heavy drain upon its earnings so long without feeling it—as if it had been a flea-bite—affords the highest possible proof of its amazing vitality and vigor. At the same time, one is puzzled to understand why the proverbial shrewdness of the American, unfailingly exhibited in his private affairs, was missing for more than a generation in this important section of national business."

Capt. Wilmot of the royal navy, writing in 1892, said:

"When we passed from the old irregular method of manning the fleet, and adopted the continuous service system (under which seamen enter for ten years, with the option of continuing at its expiration for a further similar period, followed by a pension), coupled with the entry and training of boys, a complete revolution was effected in this portion of the naval service. The delays of manning in peace time disappeared, and all uncertainty in the matter, when hostilities are apprehended, is removed. For a reserve in time of war we rely on 20,000 merchant seamen (now 30,000), who, though they have never served on board a man of war, are annually drilled to guns and small arms at various depots round the coast. How far the comparatively small number of highly trained seamen we maintain, together with this somewhat uncertain reserve, would supply the requirements of a protracted maritime war it is difficult to say. The waste, from many causes, would be very great, if the struggle were severe, but seeing the number of men this country possesses who are, or have been, connected in some way with the sea, and who would be of great assistance when acting with trained seamen, I do not think that in this respect our resources will prove inadequate."

Without stopping to give the expression of other American presidents and publicists, may I not reproduce the language of an official report of Thomas Jefferson over 100 years ago, which has lost none of its force:

"Our navigation involves still higher considerations. As a branch of industry, it is valuable, but as a resource of defense essential.

"Its value, as a branch of industry, is enhanced by the attendance of so many other branches on it. In times of general peace, it multiplies competitors for employment in transportation, and so keeps that at its proper level; and in times of war—that is to say, when those nations, who may be our principal carriers, shall be at war with each other, if we have not within ourselves the means of transportation, our produce must be exported in belligerent vessels, at the increased expense of war freight and insurance, and the articles which will not bear that must perish on our hands.

"But it is as a resource of defense that our navigation will admit neither neglect nor forbearance. The position and circumstances of the United States leave them nothing to fear on their land-board, and nothing to desire beyond their present rights. But on their seaboard, they are open to injury, and they have there, too, a commerce which must be protected. This can only be done by possessing a respectable body of citizen seamen, and of artisans and establishment in readiness for ship building."

A recent consular report gives account of changes in British and German tonnage in the past twenty years, and this succinctly is the record of British companies; one increased from 174,000 to 446,000 gross registered tonnage; another from 58,000 to 383,000; another from 175,000 to 326,000; another increased seven-fold to 312,000 tons; another from 96,000 to 298,000; another from 53,000 to 261,000; another from 51,000 to 254,000; another from 51,000 to 254,000; another from 68,000 to 203,000. For the Germans, one line increased from 60,000 to 719,000, and another from 103,000 to 573,000.

From the general experience it may be taken that a foreign merchant marine is an essential element in rounding out the affairs of a nation which has seacoast and possibilities of foreign trade. We have a greater navigable seacoast than any other country in the world, and the greatest foreign trade of any country, and a growing necessity for introducing our world competitive products. We have the humiliating spectacle, that while in foreign bottoms we import more products from South America than they sell elsewhere, we have no adequate means of shipping to them the things which we have and should sell in ex-

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change. To the best customer in South America we have to send by way of Europe, and when any of us visit South America convenience requires that we go to Europe and from there to our near neighbor. Let us leave those gentlemen who are either content with this condition of things or think they will remedy themselves in some undefined way.

Now, as to the remedy: It must be understood that in our league there is absolutely no interest in favor of any particular remedy; that our purpose is the finding of a remedy and the best one. So, therefore, we are ready and willing and desire to approach this question of remedy without predilection in favor of particular means, without fear of words or definitions. Many people in this great country shiver and would have the nation hesitate and stutter over the word subsidy. We have gone through a lot of definitions since the constitution was adopted, and it must, out of the reason of the thing, come to be a mere weakness for any man to say or write that he is opposed to subsidy per se. Among the remedies that have been suggested and perhaps including all, are free materials for ship building, free ships, discriminating duties and direct aid.

There are afloat in the country today those who say that our problem would be solved if the materials for building ships for foreign trade were admitted free and point to ship plate being sold for delivery abroad cheaper than at home and who invoke the aid of tariff reform without appreciating that for some fifteen years all material for building, furnishing and repairing any ship for the trade has been entirely free of any duty. This plan has so been thoroughly tried and is exploded. Free ships, the right of going abroad and purchasing a ship wherever it might be built cheapest does not seem to promise anything. Until foreign countries shall raise their wages and conditions of living, or we shall, by some general process, reduce ours, it must be that wages and cost of operation of American ships, regardless of the percentage of Americans to be employed, shall be greater. If we can purchase ships abroad cheaper than in this country, it is only so far as the labor in their construction costs less abroad. Here let it be said that by reason of the stifling of coast ship building in this country, ship yards are not able to standardize and so put into vogue those practices which in other lines of work have enabled us in this country to pay higher wages with better conditions and yet produce more cheaply, as our railroads under our conditions carry freight more cheaply than abroad. There seems no warrant in experience, analogy or acceptable argument for asserting that free ships would solve the problem. But by reason of the assertion, the congressional commission made special inquiry upon this subject, and the universal testimony of men interested directly in shipping and the operation of ships was against and overwhelmingly against the proposition that this could afford relief. Discriminating duties in the beginning of this country doubtless aided very much at a time when we were an importing nation, exporting only food stuffs and raw materials which other countries required. Now we have gotten into a position and condition where practically half of all that comes into this country is on the free list. There is no export duty. And when we come to consider South and Central America, our nearest neighbors, barely 10 percent of what comes to us now in foreign ships pays any duty. To you, who, in dealing with general questions of business, appreciate the absolute necessity of correct detail, I put the question: How would the plan of discriminating duties work out? In the first place, consider that anything shipped out of this country does not have any duty about it and the plan could not be applied there. In the next place, consider that two ships might load at a foreign port, one largely with dutiable goods, the other largely with goods free of duty; how would it be worked out in such a case? Not to detain you too far with detail, take the further case that in respect of goods which are dutiable one ship hauls 15,000 miles and another ship 1,500 miles; how is this to be worked out? I lay aside the political question of disturbing thirty-two working commercial treaties, and ask you gentlemen when you go home to take up the question of discriminating duties as a purely business problem, and see if with no duties on exports, with 90 percent of our goods coming in free from South and Central America, half our goods from all over the world coming in free, with the duties laid precisely the same regardless of the distance traveled by the ship, how a system of discriminating duties could be devised which would be workable.

Our league has been in existence nearly a year. It was not formed to support the action of the congressional commission. In its first statement, made in advance of any report, we expressly reserved the right to criticize anything which might be put forward by that commission. But we find ourselves really in the condition of mind of the majority of the commission, with perhaps a little more freedom of expression. That commission went all about the United States, invited expression from every one willing to come before them, sifted it all and reached the conclusion unanimously that we need a merchant marine possibly less for the purpose of introducing trade abroad, important as that is, than for general safety of the country in having a fleet of our own to carry our goods independent of foreign complications, reliable for the continuance of our trade under suitable naval protection in case we might be involved in war and furnishing those adjuncts of the navy which every nation in the history of the world has found to justify all the other expense of a navy, that is to say, auxiliary ships and a sufficient resource for seamen when the test should come.

Time does not permit my going into the details of the bill proposed by the commission. Your congressmen can furnish you with a copy or you can obtain it otherwise readily. Suffice it to say that the commission apparently regardful of the hobgoblin of subsidy, have provided for only a few lines, and these only to South America and to the Orient. But they have heeded the cry which went over this country when other projects were before congress, that what we most need is the delivery wagon style of ship and provided a general subsidy, and I use the word "subsidy" because it is the familiar term and we should not fear definition but hold to substance.

The question of expense is of greatest importance, but most important as related to probable results. This country is now paying for rural free delivery nearly twenty-six millions a year and for city free delivery twenty-one millions a year. This is for convenience of the people. A fraction of that sum would solve the problem of our foreign marine and supply a conceded necessity. Putting it another way, the price of a single battleship for the navy would more than meet the expense of a thorough experiment in rehabilitating our foreign merchant marine, compared with the expenses which we are approving in connection with the Philippines, for our navy and army establishments and in the building of the world canal, the cost of a thorough test might be described as a "drop in the bucket."

I wish I might detain you with a discussion of every feature of the bill. I would be glad if some one could present a better bill, but the sole point has been to lay this matter before this national body in the hope that you

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will go home thinking of the subject, believing that it is one of the most important before the American people, and that you, through your large influence upon affairs in your homes, will be willing to aid in bringing the subject forward to help speed that day when our American trade shall go abroad under our flag, peaceful emblem of excellence, of honesty, of fair dealing in trade and of manful considerate power when needed, and all in the spirit of the toast

The union of lakes, rivers and lands,
The union of states none can sever,
The union of hearts, the union of hands,
And the flag of our union forever.

SHIPBUILDING IN THE UNITED STATES

The bureau of navigation reports 315 sail and steam vessels of 82,520 gross tons built in the United States and officially numbered during the quarter ended Sept. 30, 1905, as follows:

	WOOD				STEEL				TOTAL	
	Sail		Steam		Sail		Steam			
	No	Gross	No	Gross	No.	Gross	No	Gross	No	Gross
Atlantic and Gulf	65	5,318	104	4,108	4	2,551	13	11,484	186	23,461
Porto Rico	2	15	.....	.....	.....	.....	.....	.....	2	15
Pacific	9	729	29	2,185	.....	.....	.....	.....	88	2,914
Hawaii	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Great Lakes	5	157	37	574	.....	.....	14	54,845	56	55,576
Western Rivers	.....	.....	48	839	.....	.....	.....	.....	48	839
Total	81	6,219	203	7,421	4	2,551	27	66,329	315	82,520

During the corresponding quarter ended Sept. 30, 1904, 328 sail and steam vessels of 40,374 gross tons were built in the United States and officially numbered, as follows:

	WOOD				STEEL				TOTAL	
	Sail		Steam		Sail		Steam			
	No.	Gross	No.	Gross	No.	Gross	No.	Gross	No.	Gross
Atlantic and Gulf	105	21,766	74	2,947	.....	.....	15	8,472	194	33,185
Porto Rico	2	22	.....	.....	.....	.....	.....	.....	2	22
Pacific	13	2,449	41	2,050	.....	.....	.....	.....	54	4,499
Hawaii	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Great Lakes	10	126	13	257	.....	.....	4	409	27	792
Western Rivers	.....	.....	51	1,876	.....	.....	.....	.....	51	1,876
Total	130	24,363	179	7,130	.....	.....	19	8,881	328	40,374

MEAN STAGES OF WATER

The gauge records of the United States lake survey show the following mean stages of water above mean sea level, for September, 1905:

	Stages during September Feet.	Higher than during same month last year. Feet.	Lower than during same month last year. Feet.	Higher than during Sept., 1895 Feet.	Lower than during Sept., 1895 Feet.
Lake Superior	603 41	0 33	....	0 32	.....
Lake Michigan	581 40	0 21	....	1.72	.....
Lake Huron	581 46	0 10	....	1 52	.....
Lake Erie	572 50	....	0 25	1 31	.....
Lake Ontario	246.61	....	0 56	2.57	.....

Present fall Lake Huron to Lake Erie, 0.35 ft. more than year ago.

TRADE NOTES

The Falls Hollow Staybolt Co., Cuyahoga Falls, O., is in receipt of an order for a large quantity of Falls Hollow staybolt bars from the American Railroad Co., San Juan, Porto Rico. The company has also a large order for hollow bars for shipment to Japan.

The Falls Hollow Staybolt Co., Cuyahoga Falls, O., has employed Mr. F. C. Lippert, 5054 A Bartemer avenue, St. Louis, Mo., as traveling representative for Western territory. Mr. Lippert is a graduate of Cornell University and a mechanical engineer of high standing. He has made the subject of staybolt iron a careful study and will undoubtedly prove a valuable representative for the company.

The International Acheson Graphite Co. of Niagara Falls, N. Y., with the recent completion of a large extension equipped with the most modern electrical and mechanical appliances and machinery, has doubled the capacity of its plant for creating graphite in the electric furnace, and has closed a contract with the Niagara Falls Power Co. for another 1,000 H. P. of electrical energy in addition to the 1,000 H. P. previously used. The commercial importance of this artificial graphite may be estimated from the fact that the United States geological report for 1904 states that for that year the value of Acheson graphite produced was $217,790, while all the graphite mined in this country amounted merely to $341,372. New York state, which is considered rich in deposits, according to the official report of 1904, produced natural graphite worth $119,509. Acheson graphite is largely used in the manufacture of metal protective paints, dry batteries, stove polish, packing and as a lubricant. The electrochemical processes also consume an extensive supply.

PERSONAL

Hon. R. Prefontaine, minister of marine, is expected to sail from Montreal for a trip to Europe on Oct. 20.

Mr. John Sinclair, foreman of the Port Huron Ship Building Co., has severed his connection with the company to take a similar place in Manitowoc.

George W. Perkins, of the firm of J. Pierpont Morgan & Co., has sailed for Europe on the Kaiser Wilhelm II to confer with the representatives of the Russian government in regard to the flotation in New York of a part of the Russian loan.

Mr. Charles R. Flint, of New York, left last week on the Kaiser Wilhelm II for Russia. It is reported that Mr. Flint has a contract for the construction at Russian ports of shipyards under American control for the reconstruction of part of the Russian navy as well as for the upbuilding of the Russian merchant marine.

Mr. Stewart B. Shaw has been appointed assistant industrial agent of the Baltimore & Ohio railroad, with headquarters at Parkersburg, W. Va. Mr. Shaw is a graduate of the Maryland Agricultural College, and his duties will consist of giving expert advice to fruit and truck growers and farmers along the line of the road, with the object of improving and increasing the crops and thus making more traffic for the railroad. Mr. Shaw was previously assistant professor in the Maryland Agricultural College. Mr. W. W. Wood is the industrial agent.

OBITUARY

Mr. George W. Catt, president of the Atlantic Dredging & Construction Co., died at his home in New York on Sunday last.

Capt. Lysander Mitchell, one of the early sailing masters on the great lakes, died at his home at Kenosha, Wis. He formerly sailed the steamer C. H. Hackley.

Shipping circles generally will be surprised and shocked to hear of the death of Sir George Arbuthnot Burns, better known as Lord Inverclyde, chairman of the board of the Cunard Steamship Corporation. He died at his home near Glasgow last week of pleuro-pneumonia. He was the second Baron Inverclyde, the baronetcy having been created in 1897. He was born Sept. 17, 1861, and had been an active force in the Cunard Steamship Co. for many years. He was a close friend of King Edward and an enthusiastic yachtsman, having been a commodore of the Royal Yacht Squadron.

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VOL. XXXII. CLEVELAND, OCTOBER 19, 1905. No. 16.

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Scotch and Water Tube Types combined.
Half the weight of ordinary Scotch Boilers.
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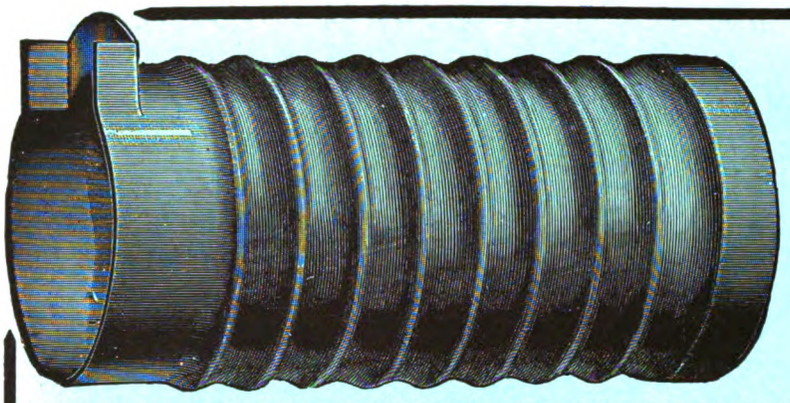

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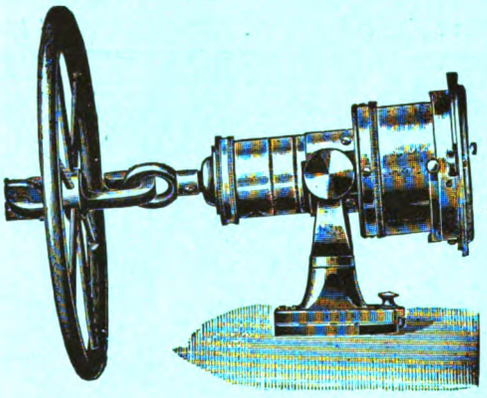

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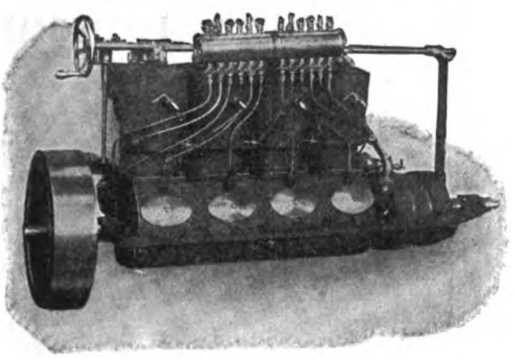

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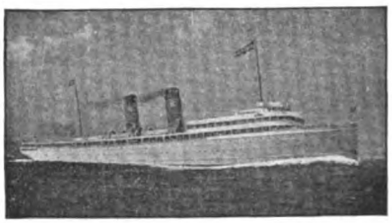

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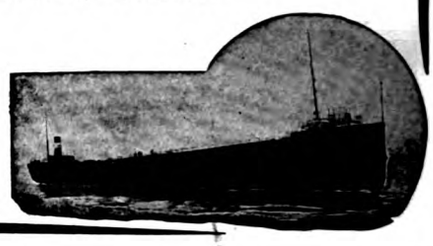

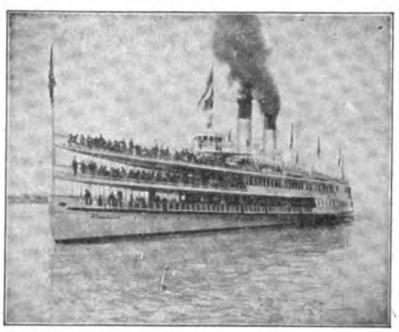

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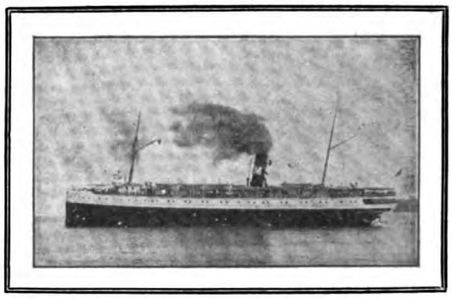

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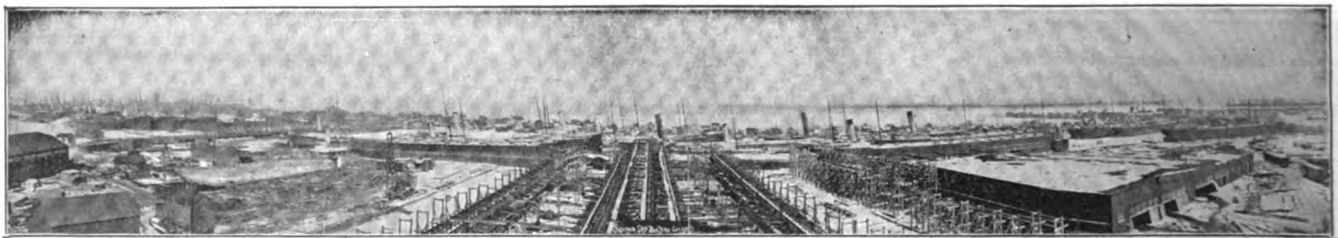

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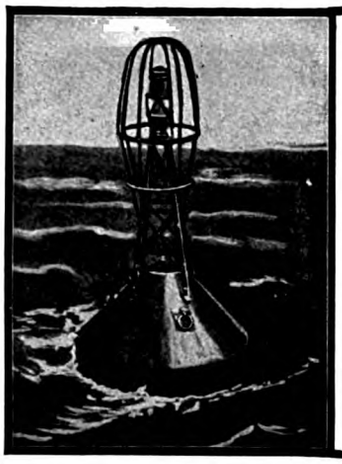

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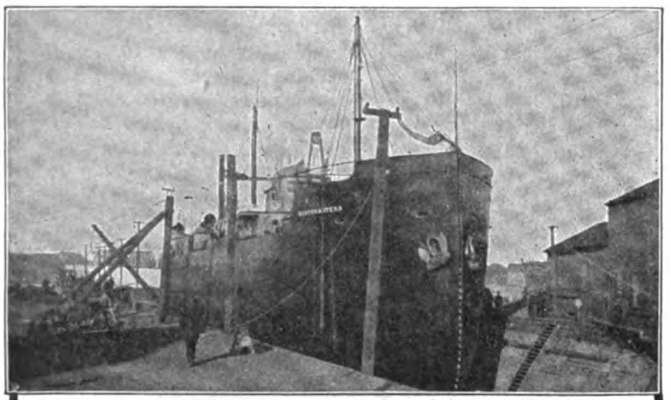

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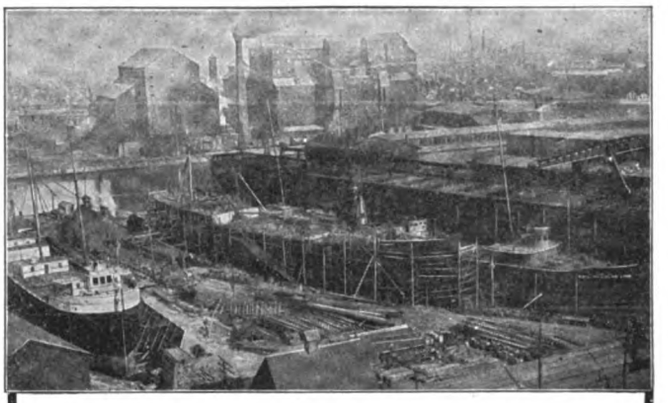

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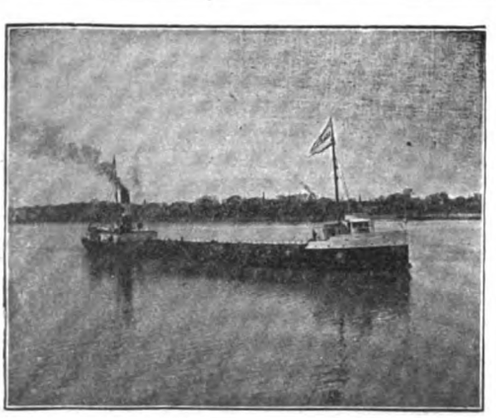

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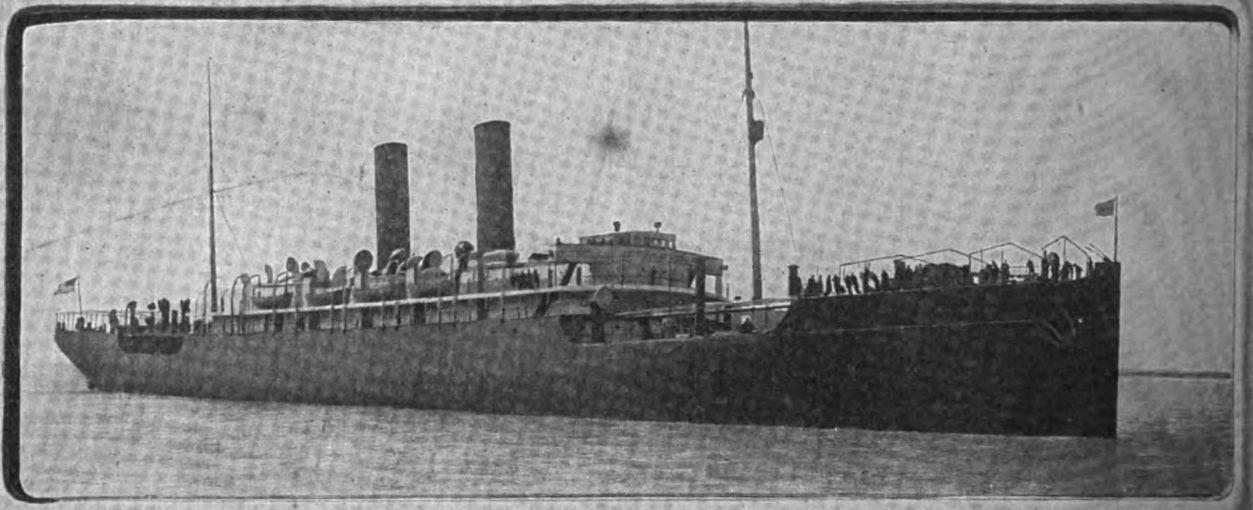

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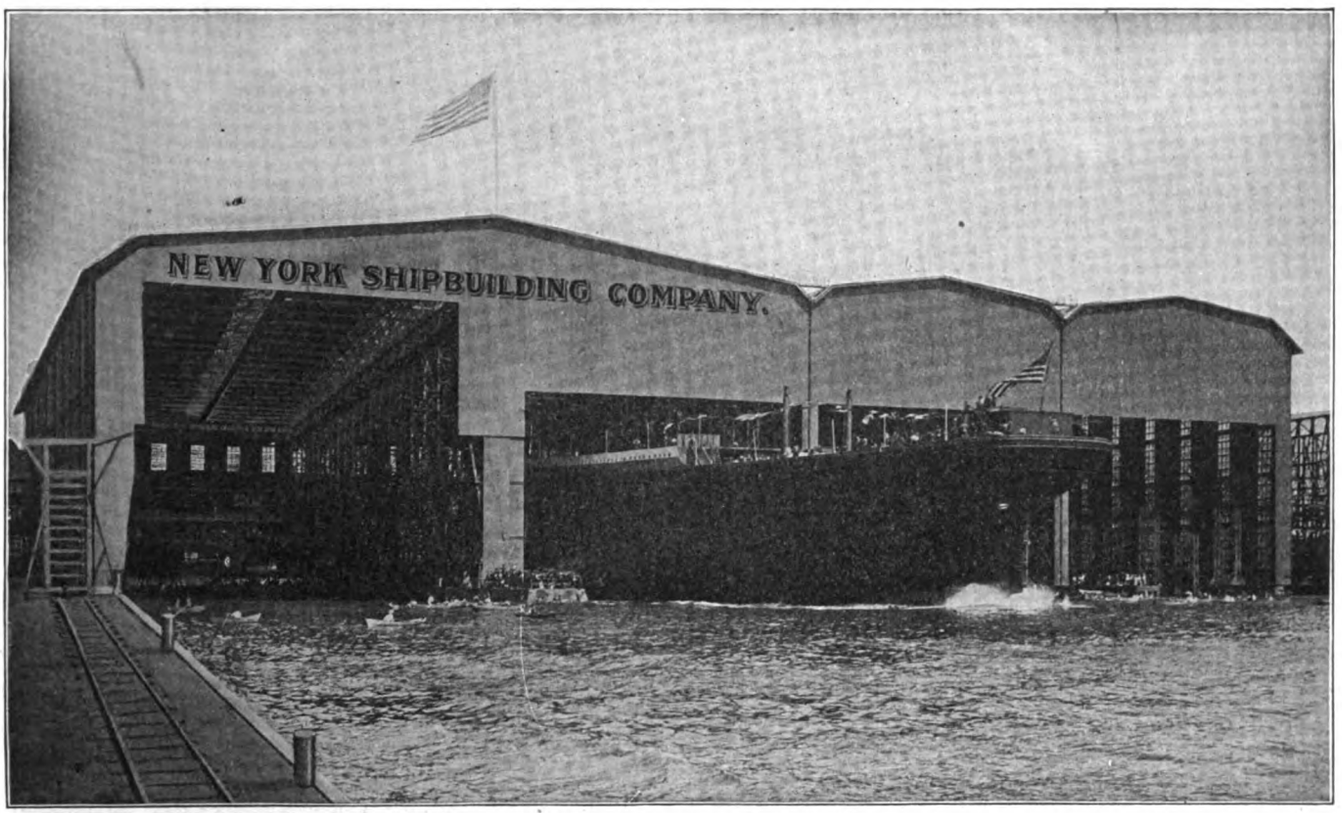

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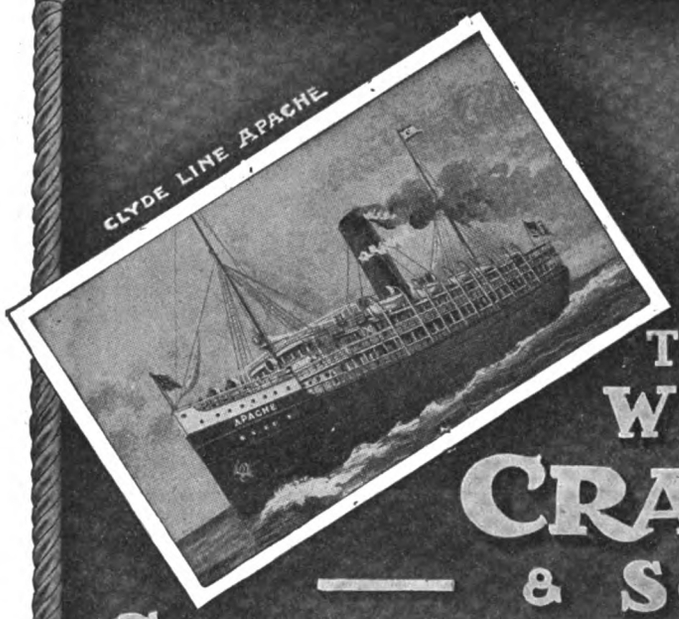

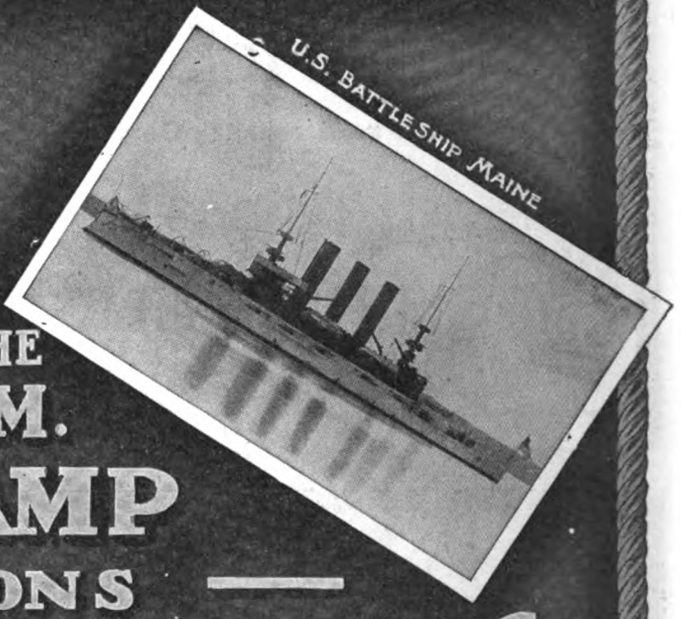

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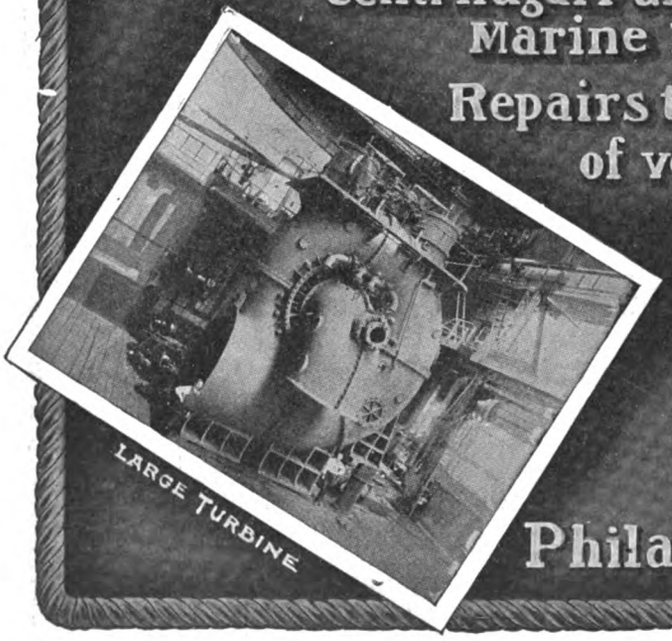

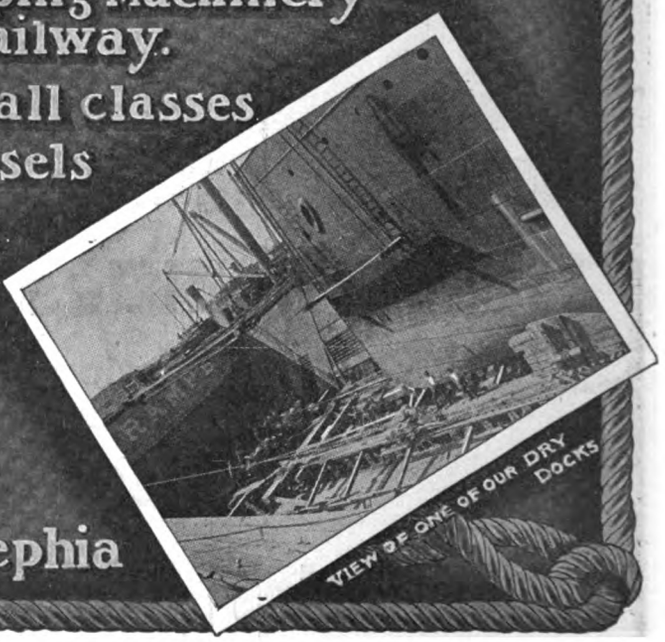

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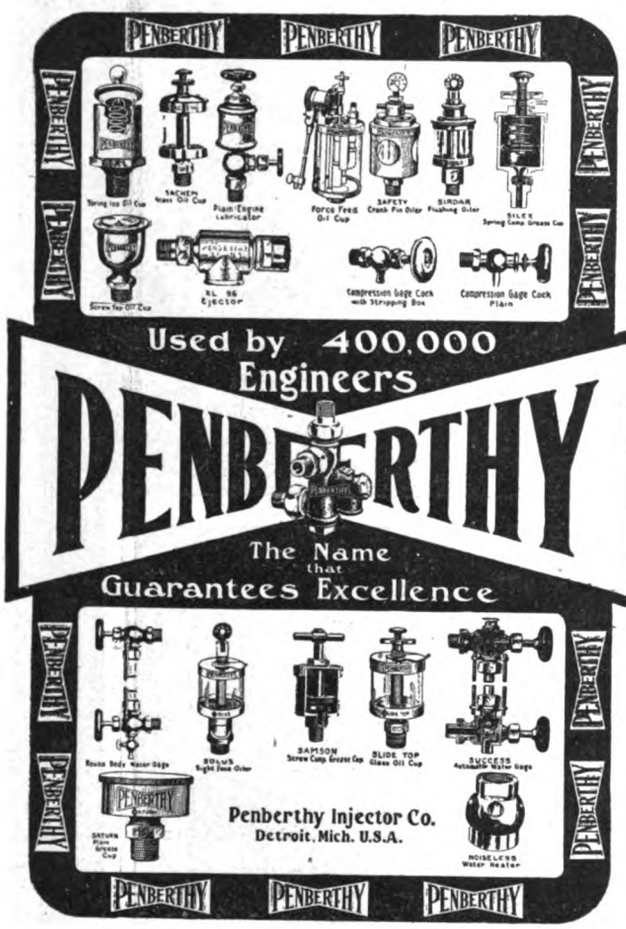

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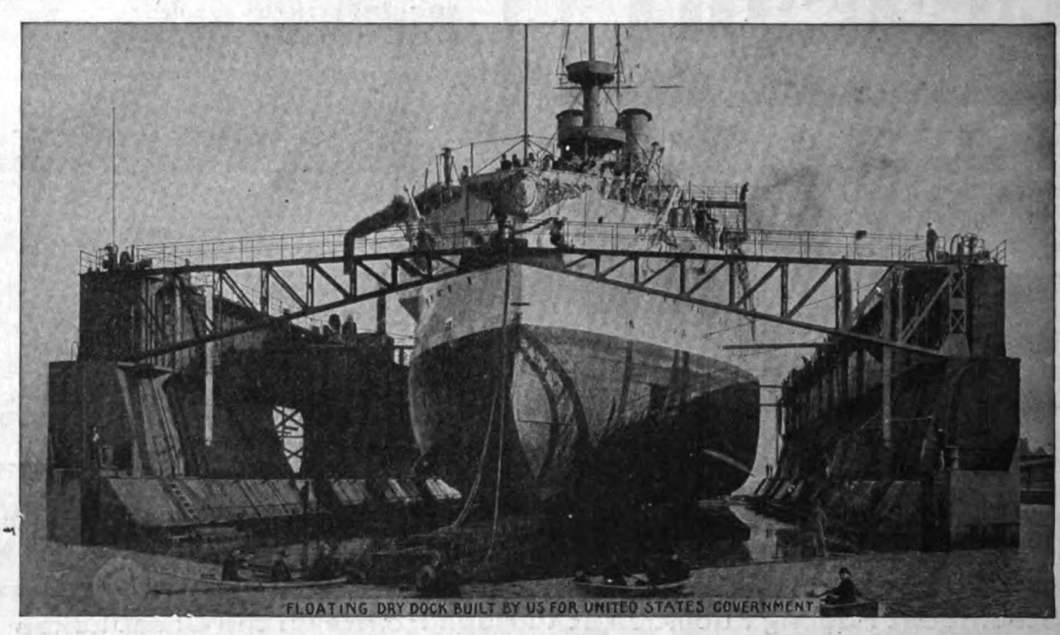

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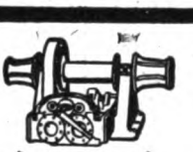

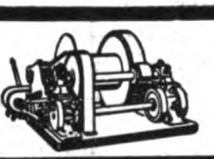

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Over 100 in successful use.
Also the well known and always reliable Woolters Gas or Gasolene Stationary Engines.

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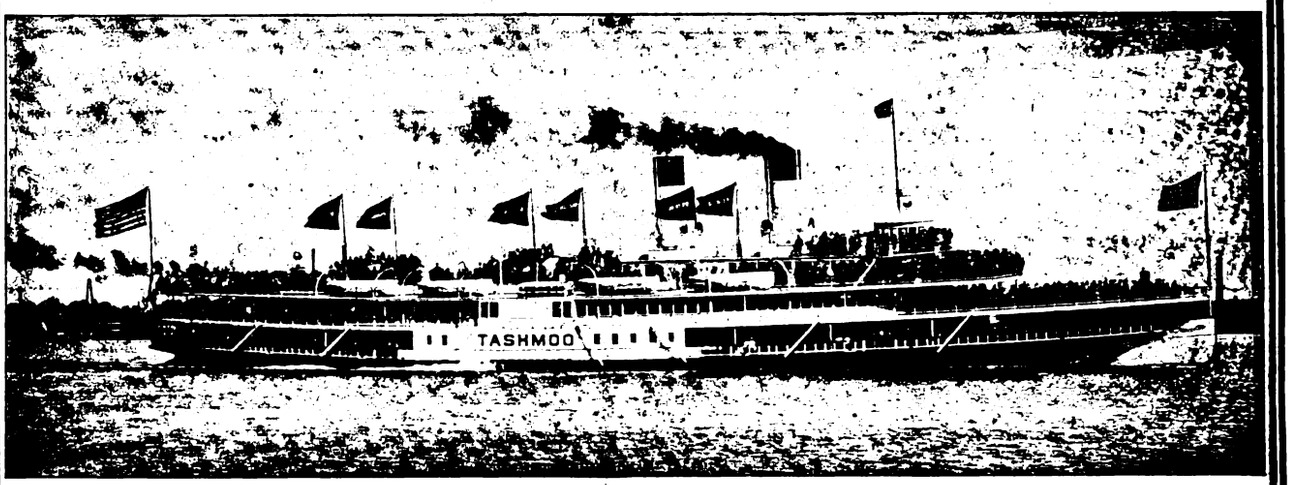

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James Battle. (Detroit Fire Boat). The launch.
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Chippewa. (American).
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Detroit in the Ice. (Transfer Steamer). Two Views.
M. M. Drake.
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Eastern States on First Trip. (Three Views—Broadside, Bow and Stern).
Eastern States. (On the Ways—Three Views.)
Isaac L. Ellwood.
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Fairbairn.
H. C. Frick.
Garland. (Detroit Ferry).
Glidden—Wreck of, in St. Clair Ship Canal.
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Hanna, M. A.
Harlem.
Harvard. (On the Ways).
Harvard. (The Launch).
Harvard. (In the Slip—Two Views).
Helena.
Hennepin.
Holley, Alexander (Whaleback towbarge.)
India.
Islander. (Thousand Islands—Three Views.)
Frank E. Kirby at Put-in-Bay.
Lagonda discharging coal at docks.
Lackawanna.
Mahoning.
Manitou.
Majestic. (Three Views).
Michigan Central in Detroit River. (Winter).
Mohawk.
Montana.
W. B. Morley, wreck in Detroit River, Aug. 6, 1899.
Simon J. Murphy. (On the Ways).
Simon J. Murphy. (On the Ways—Two Views).
Simon J. Murphy, Launch. (Bow in Slip. Stern not yet in Water.)
Neshoto.
New Island Wanderer. (Thousand Islands).
New York. (Thousand Islands—Two Views).
North King. (Thousand Islands).
North Land.
North Land, in the "Soo" Locks. (Two Views).
North Land, at Mackinac Island. (Two Views).
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North West.
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Plankinton at Northwestern Coal Docks, Duluth.
Pleasure, at Dock (Detroit Ferry).
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Princeton.
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Rube Richards, in Ship Canal at Duluth.
St. Lawrence (Thousand Islands).
Ste. Marie, in Mackinac Straits.
Howard L. Shaw, (On the Ways—Three Views).
Howard L. Shaw. (The Launch).
Howard L. Shaw. (In the Slip).
Sir William Siemens.
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Superior. (Steel Trust Tender).
Tashmoo. (In Dewey Naval Parade, Detroit River).
Tashmoo, June 9, 1900.
Tashmoo. (Entering St. Clair Flats Ship Canal).
Tashmoo. (Landing at Star Island—Two Views).
Thompson, A. D. (Whaleback).
Toronto. (Thousand Islands).
Toronto. (Thousand Islands — at Alexandria Bay).
Toronto. (Thousand Islands — at Gananoque).
Transport, in Detroit River, Winter. (Car Ferry—Two Views.)
Troy.
Uganda, in Ship Canal at Duluth.
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Car Dumping Machine—two views.
Fueling Lighter with Clam Shell Hoist.

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Great Northern Elevator—unloading grain.
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Lackawanna Coal Chutes, two views.
Lackawanna Ore Docks—unloading ore.
Lackawanna Ore Docks—unloading ore and loading coal.
Unloading Ore from Whaleback, two views.
Unloading Wheat into Elevators, two views.

CHICAGO, ILL.
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Ship Canal (Looking in) two views.
Ship Canal (Looking out).
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Steamers at the S. S. Ry. Ore Docks.

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Str. North Land at the Dock.

SAULT STE. MARIE, MICH.
Locking a Big Steamer.
Locks showing high and low level.
The Locks.
General View of Locks from Offices.
Poe Lock, from below, closed.
Poe Lock, from below, open.
Poe Lock, from above.
Poe Lock, with Whaleback.
Whaleback Str. Pathfinder in the Locks.
St. Marys River, South from the Locks.
Weitzel Lock, from above.
Weitzel Lock, from below.
Str. North Land Passing Locks, two views.
Upper Entrance to Lock Canal.
Gate Mechanism.
Interior of Power House.
Canadian Lock from Upper End.
Canadian Lock from Lower End.
Steamers Entering and Leaving Poe Locks.
The Rapids, looking up.
The Rapids, looking across.
Indians fishing in the rapids.

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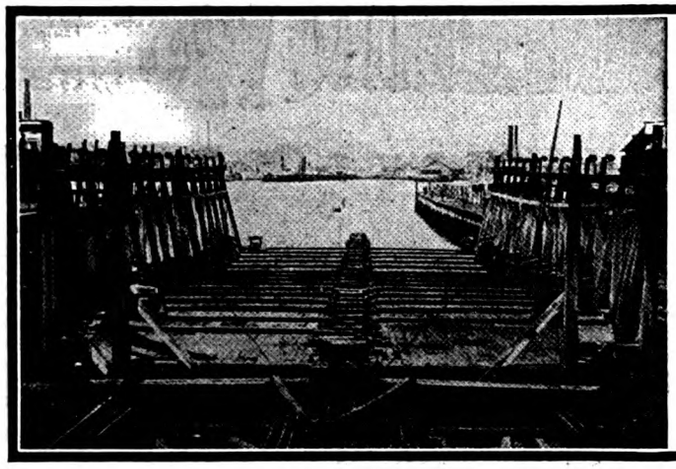

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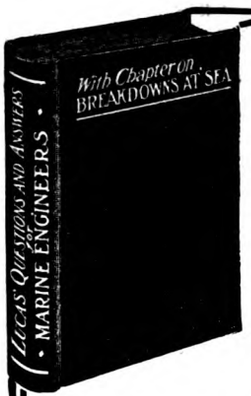

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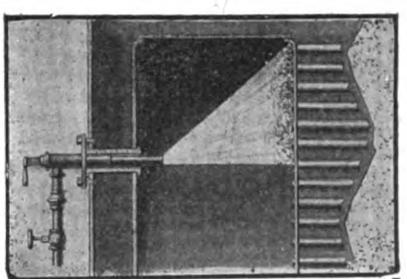

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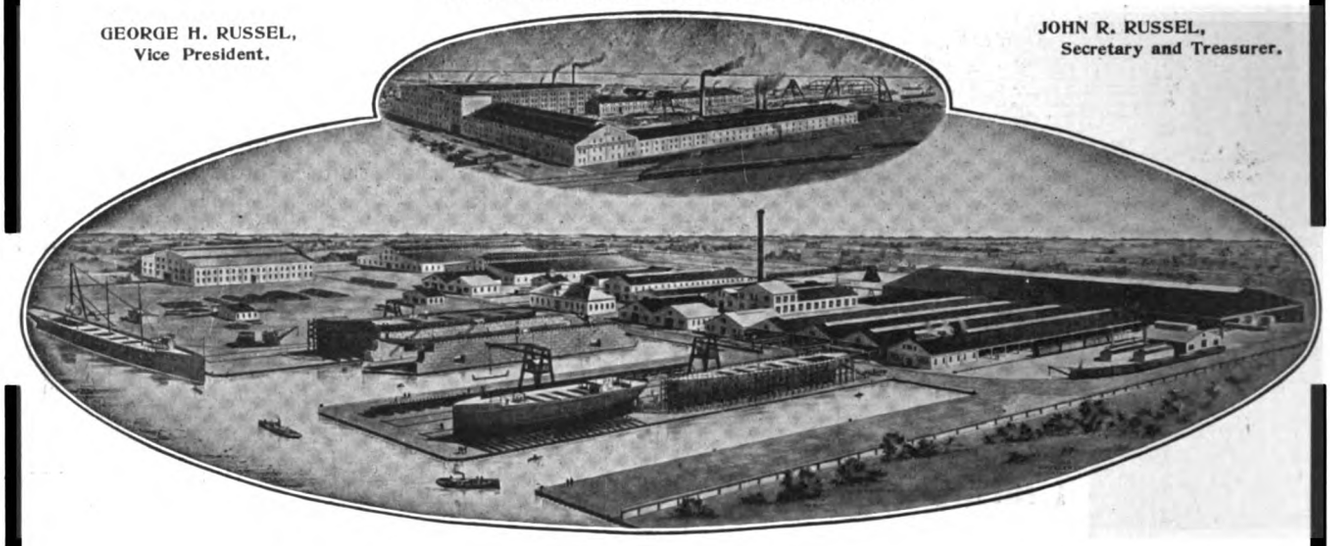

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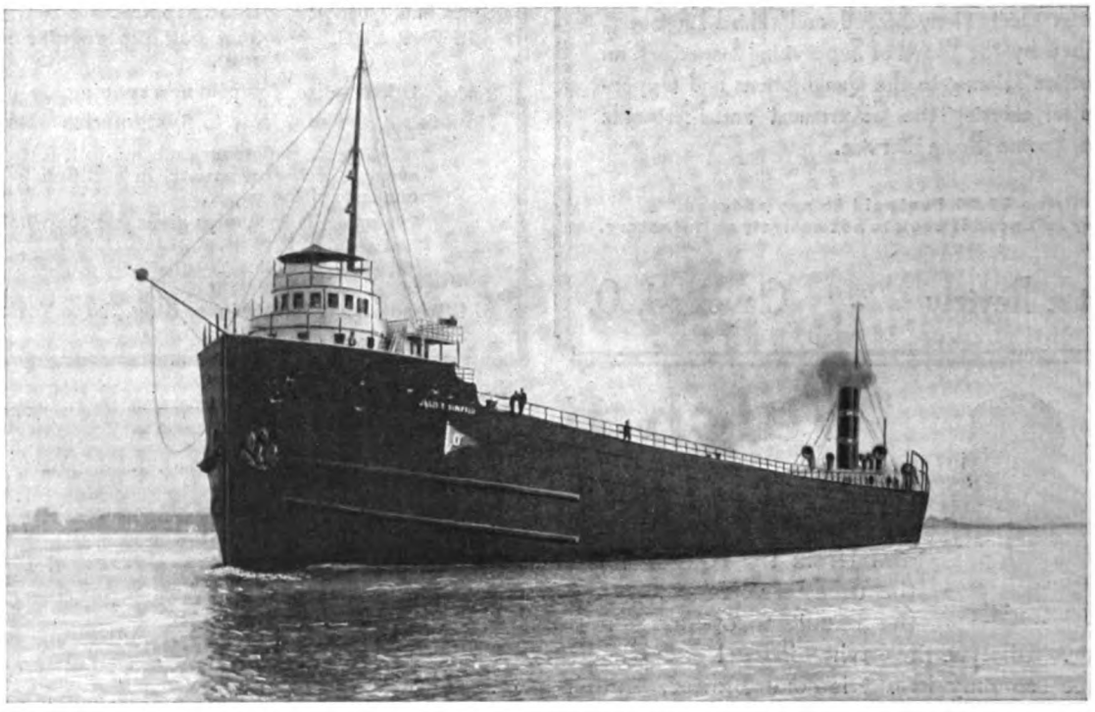

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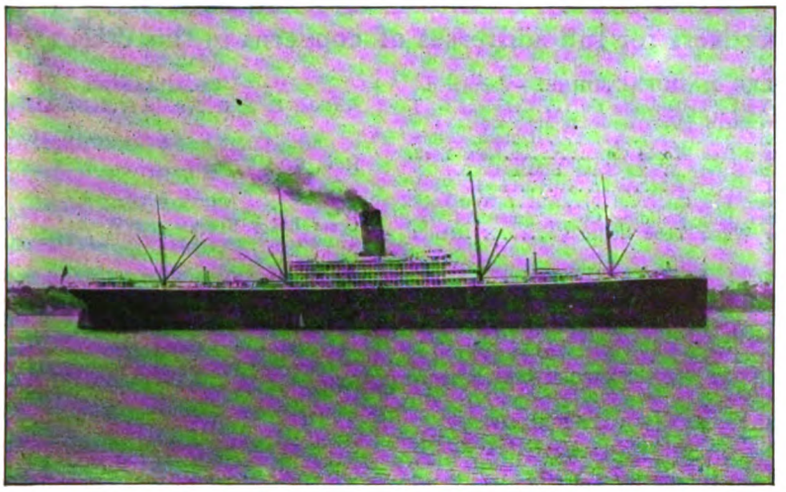

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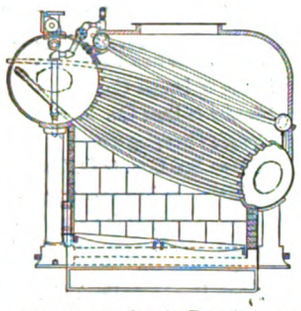

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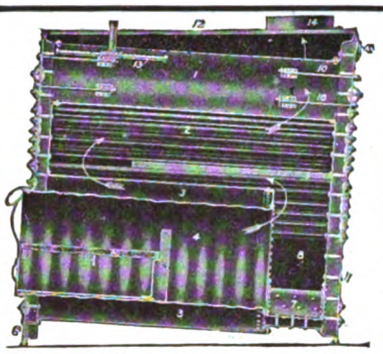

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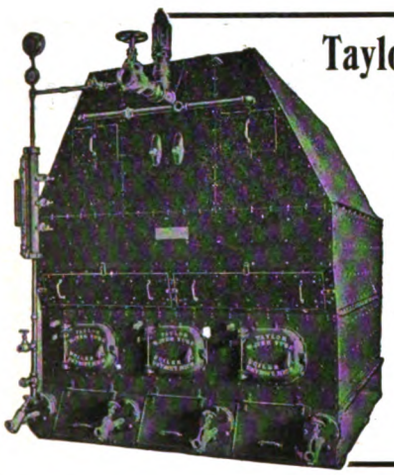

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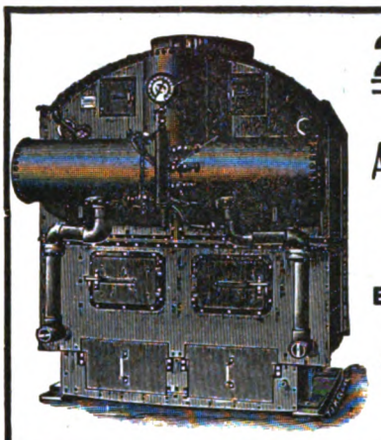

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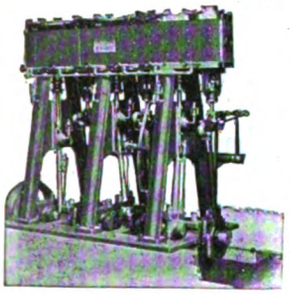

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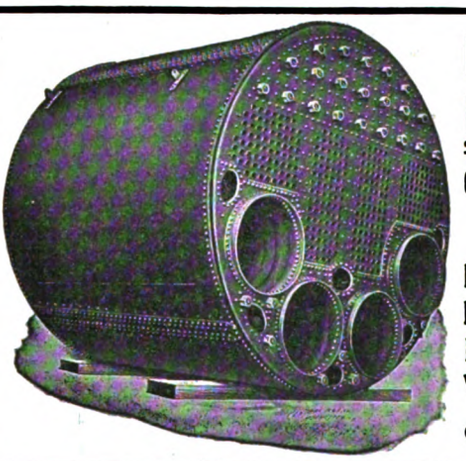

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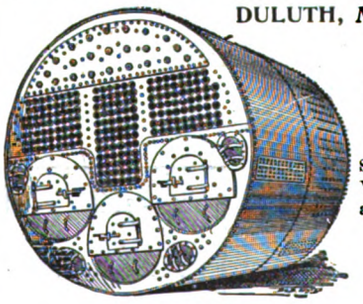

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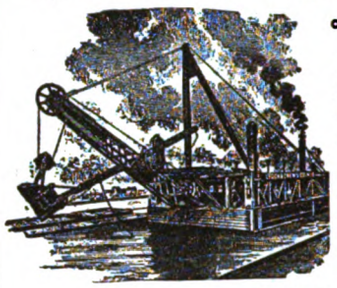

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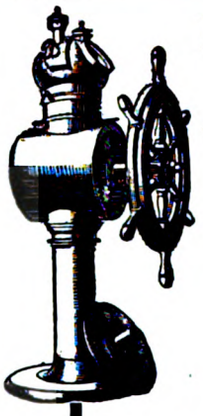
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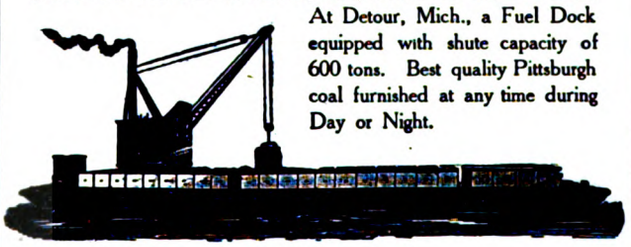
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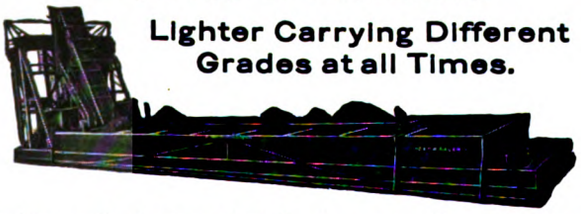
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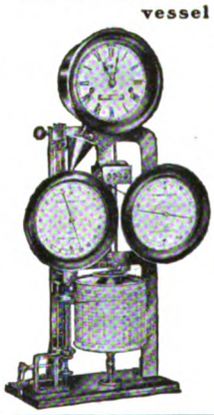

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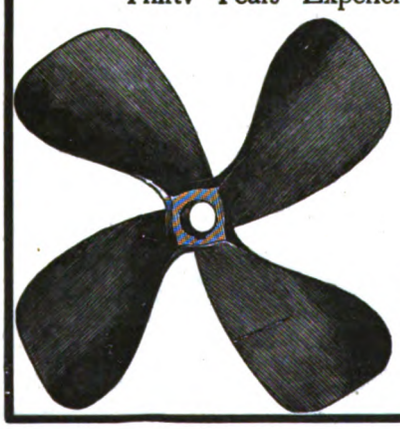

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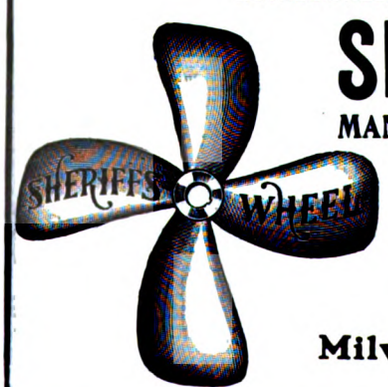

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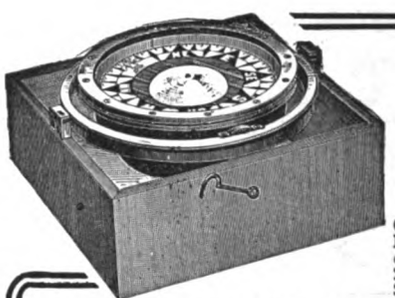

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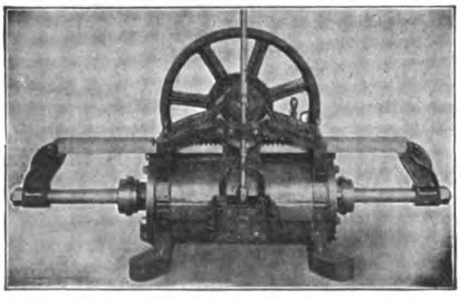

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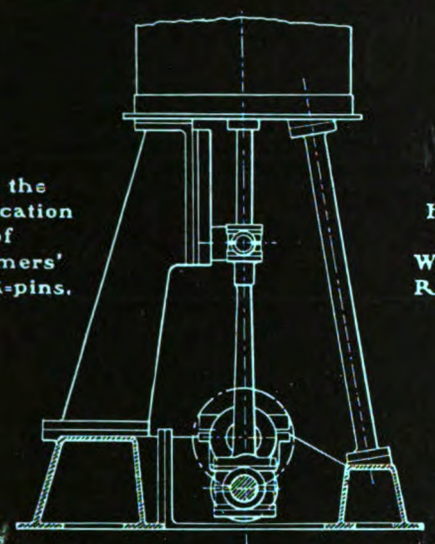

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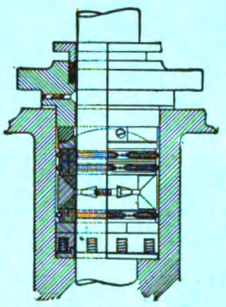

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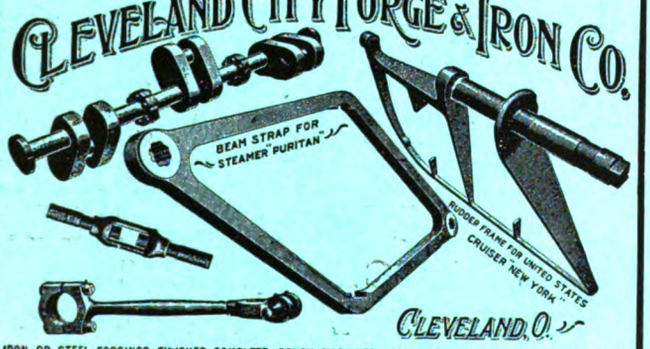

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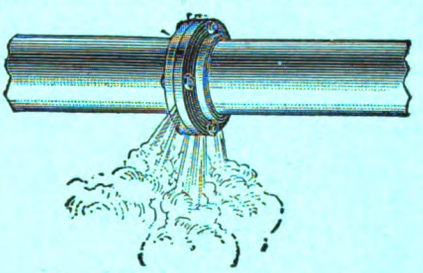

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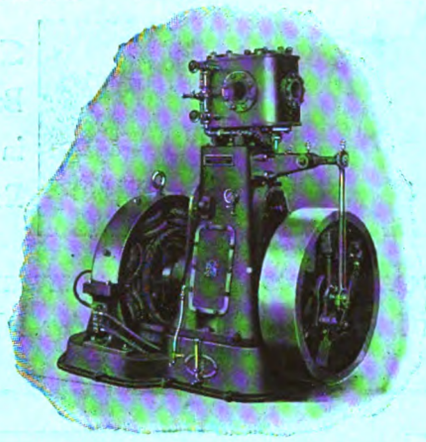

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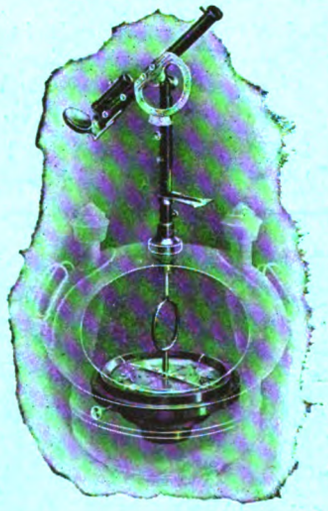

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